

Andubon &
Shelby cos.
Dec. 12, 1912
Aug. 13 - Sep. 7, 1913.

From Iowa Official Register - 1909-10.

Harlan 1200

Kirkman 1232

Drew 1266

~~Boona~~

Defiance 1275

Earling 1309

Panama 1251

Portsmouth 1200

Shelby 1304

Jennant

Elkhorn

Corley

Dunlap 1097

Persia 1167

This book is of no use to you, but I want it. If you find it I will be glad to give a reasonable reward if you will return it to me.

B. Shimek
Iowa City
Iowa.

Wendover and Shelby

1912

Jan 14, 1912 Thurs.

Left Des Moines at 4:30 PM

Train was about 1 hour late

and I missed early morning

at Dubuque at 5:30 AM

Left Dubuque for Iowa City

Long way, Low RR and just north of

Des Moines at 10:30 AM

arrived at Iowa City

Just S. of road the RR also

has a station at Iowa City

deeper and, (the Iowa City station)

at mile 10. The Iowa City

is a branch.

Prayton has fine view of Iowa

from here. Has no bridge over river

known at Iowa

Spent evening at Iowa City

at up at Park Hotel, Iowa

county plot for Iowa City

of correction and Iowa City

based on Mayne Spencer.

Went to hotel for dinner and
then met Rev R. Smith, the
Baptist State Secretary for
Rural Churches.

He introduced me to the Co.
Supt., Miss

Mr. Cousins, a cousin of Bob's
a native of Cedar Co.; to
Mr. Van a banker; Mr.
son, the latter in
general merchandise, former
a banker; Dr. May, an
S.U.I. grad.; doctor S.G. of
park; druggist —.

Mr. Smith was both
ordained and married here.

Before dinner I called on
Mr. Wm. J. Laubender, city
clerk, who promised to get
well-records.

In the afternoon I looked up

Mr. Henry Newman in charge
of well drill, and Mr. R. Locke,
his assistant. They represent the
J. P. Miller Artesian Well Co.
Chicago.

Obtained from them the following
record:

Soil at top.

At 33 ft. - 4 or 5 ft. of sand,

At 500 ft., 2 ft. of dark material
like coal.

Below 500 ft., to 1140, - shale

From 1140 - 2000, - limestone

streaked with belts of shale
2-5 ft. wide.

The limestone is gray and
white mixed.

Water mostly at 1425 ft.

Then 50 ft. of green shale.

Then 55 ft. of gray sandstone
which they called St. Peter S.G.

Took samples of last at 10-15 ft. and
25-30 ft.

The well is located on the flat opposite the C.R. & P. depot.

There is a brickyard on flat near depot, - used to be on bluffs on opposite side.
= Mr. O.H. Jacobson, representative from Audubon co., owns a brickyard near Kimballton.
Mr. Newman & his crew drilled the Dunlap well, = 1550 ft.
Left at 4:30 P.M. for Atlantic.
Met Dr. Machtrieb of Des Moines on train. He was formerly in Audubon.

1913

Aug. 13, 1913 - Wed,
Left Sioux City at 5:30 A.M.
Missed connections at Omaha and waited until 2:15 P.M. for a freight train. This took me to Manning just in time to miss the 3:40 A.M. train on the C. & N.W. for Harlan, and I had to wait until about 7:30 P.M. for a delayed C. & N.W. train.

Saw Mr. Rogers at Manning.
Reached Harlan after 10 P.M. & put up at the Hotel Harlan.
Very hot, and quiet!!

Aug. 14, 1913 Thurs.

Spent day in working up information about well diggers, working up plate, etc.

Found that Will Shepherd was out of town but saw Ed. White.

Aug. 15, 1913 - Friday

Spent the day in work on township plate and in planning itinerary.

Aug. 16, 1913 Sat.

Drove out to the river and all the way to the (Gaugage) bridge in sec. 8. (20.4) - 79-38.

cut 1
Found a thick layer of bluish gray sand with many nodules, numerous layers, and numerous iron tubules.

When dry it is quite hard. A few shells were scattered all through. Found:

Succinea arena

Followed up the river and found a sandy bank with an exposure showing what appears to be the following succession:

This is cut 2.

Loveland
Kansan
Ipswich
Nebraska → a.

Much water comes from a.

Also found ^{modern} Succinea aranea
Zonitoides minusculus and Pseudosuccinea
armifera under leaves.

In the afternoon I walked out
along C. & W. R.R. Southwest.
Noticed old cuts (3 & 4) at
depot, showing loess. Now
badly overgrown.

Cut 5 is first cut W. (SW) of
C.R. & P. depot, on C. & W. R.R.

In the E. side of this cut,
toward S. end, is where a
mastodon (I think Elephas) track
and tooth were found.

Said to have been at base
of loess.

The cuts 3, 4 and 5 are
here greatly overgrown with
Medicago alba, a good holder!

Down. It seems to be (not)
far from depot, and the
surrounding cement works. They are
said to be brought from the Flatlands.

Walked S. & S.E. to sec. 20-17-38.
Visited the woods near on
Sorenson's place - & found
buroak and red elm dominant -
the former more common on upper
borders. This was formerly all
of hazel brush, etc., and now some
grass has come in, and this place
makes fine pasture.

The grove in sec. 20 was
partly cleared.

In the grove were:

Ribes gracile	
Ulmus fulva	
Quercus macrocarpa	Cornus paniculata
Symphoricarpos occidentalis	Ailanthus v. verrucosa
Xanthoxylum americanum	Crataegus mollis
Tristemon perfoliatum	Rhus glabra
Prunus americana	
Callalpa (a row)	- plantain
Box Elder	- Introdum?

In the E. 40 The red elm is dominant.

Thompson's

Thompson's

Thompson's

Thompson's

Thompson's

Cont

Cont

Cont

Cont

Cont

Cont

11.28.1374

CR. 9.10

in attendance

at base, yellow above.

X. Three mullerites in yellow loess appear ^{marked in mounds} along road north.

This part, to lower middle of sec. 8 is rough. Further north the slopes towards river become less abrupt and the road runs along flat.

Near Harlan we passed a big (garden) patch of *Amaranthus retrofractus*.

Vernonia is very bad in pasture near bridge.

Cut 8 In NW. $\frac{1}{4}$ SW. $\frac{1}{4}$ 29-80-38 a cut on slope facing N (not more than 3-5 ft. deep) shows Kansan drift in lower half, a ferritic zone, with a sort of chocolate layer above, and on this a gray loess with nodules. (See samples.)

The Kansan is of the gray modified type (see sample.) the ferritic is clayey.

The layer above (a foot or two)

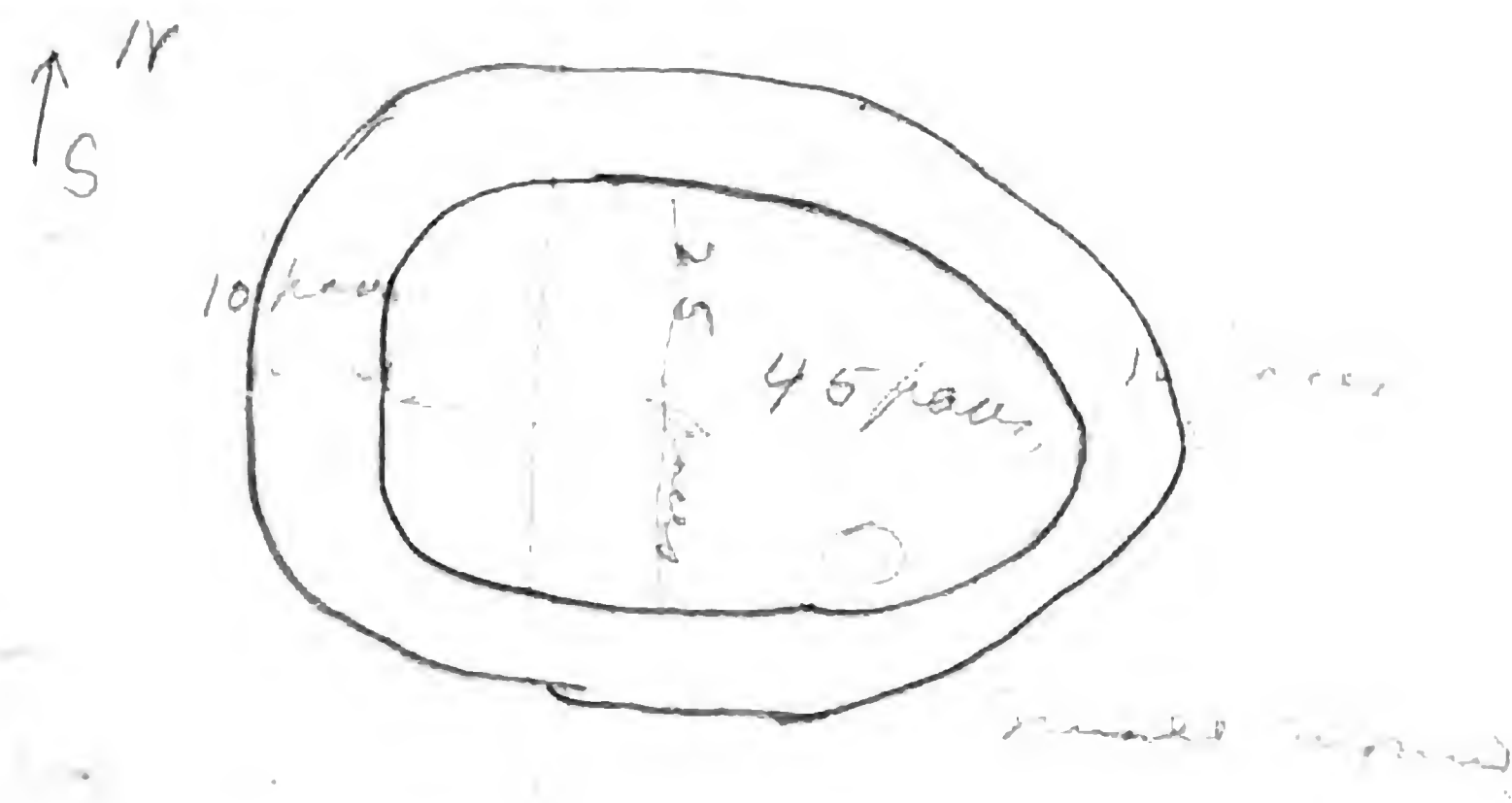
is laminated with darker strata interbedded, and grades up into what looks almost like a gray loess.

Near top of all, and on top, is a layer of yellow sand (not thick, probably only 4 or 5 ft.) which at top shows small nodules, which are not very abundant.

Cut 9— In NW. $\frac{1}{4}$ of sec. 29 there is a steep hill facing N., with cut. Yellow loess shows on top of hill.

Cut 10— The steep hill just N. of Pickard's, in NW. $\frac{1}{4}$ SE. $\frac{1}{4}$ sec. 20-80-38, shows calcareous Kansan (light blue) for nearly $\frac{2}{3}$ of the way up. Above it is an indefinite (lumpy) reddish layer, and above that yellow loess. Did not see blue (gray) loess, did not search much. Looked at the two mounds in

N. part of sec. 17, - near bridge.
The east mound is larger.
It is very flat on top and
sloped 20;



It is somewhat lower towards E. side.
Elevation about 10 ft. at E. end
and over 12 at west end.
This mound is right on
flat.

The other mound, west of
ditch, is narrower at top,
not flat, and overgrown, - some
trees.

There is a sort of terrace
in the big bend of river just S.,

on E. side of river, higher than is W,
probably 20-30 ft above river
bottom. It is a mound, just a
part of the terrace cut-off!

80-34
The soil here is a sort of
irregular terrace.
The hills around here
yellow loess.

Cut 11 - On S. side of east hill
in E. end of sec. 7, I could see
gray loess near base of slope,
and some yellow loess on top.

Cut 12 - Cut on N. slope also shows
gray loess below, with nodules.

Cut 13 - At center of S. side of sec.
6-80-38, on hill facing N,
yellow loess appears on top, with
very many small nodules. The
greater part of the slope, almost
to base, shows blue loess with
many iron tubes. Occasional
signs of a ferretto(?) appear, but

no Kansan is in sight.
Near Sw. cor. St. 4 sec. 23-81-39,
along road which runs along
northern slope, well below top
of ridge, gravel and boulders
indicate Kansan.

(Copeland at Manila is red type.
A little ridge on sec. 63,
on James White's farm, is almost
barren.

It is yellow or reddish stuff,
Loveland? (see sample)

Examined the big cut E. of
White's and saw many fossils.
Will return to this
section.

X Yellow loess also appears on
S. side Sw. 4-30-81-38,
(see map.)

Monday, Aug. 18, 1913.

Wrote up notes. At 7:15 AM.
went to the fields from north
of Manhattan with Shiplin, in his
new car.

Noted the plants. Big. Found
that stumps of the figwort were
favorite habitats of fungi and
mosses. Found a "saw-tooth"
stump over 3 1/2 ft. in diam. &
covered with lichens. (see spec.)
Collected a few land snails, and
on an old cotton tree (near old
basswood) I found fungi & slime-
molds.

The red stem & low oak are
more common on the upland
border, & the red stem, figwort,
hackberry and basswood are
quite common. The figwort is
very common & scarred by borers.
Returned at noon. Rained and

runs nearly parallel to slope,
dipping in above, and is probably
not over 5 or 6 ft. deep. Though
this was not determined as a result
of stumps.

There was sand (evidently under
loam) about $\frac{1}{2}$ way up hill &
this was about a level of old
sand pit west.

Near base of slope the
chondritic, tabular layers appear,
about 2 ft. thick, & below
it is calcareous light blue
Kansan. Some pebbles &
small boulders.

The top of hill = 1334, base = 1250.

Cut 16 Next hill E = 1315 - top & cut on slope
(Aug. 24) Kansan drift, gray belt, yellow loess.

Cut 17 - (Aug. 24) (X) Yellow loess with fossils; blue mud below; 6-7 ft. of yellow loess.

Cut 18 The next hill, near middle
of run shows Kansan at base,
a gravelly & I noticed
only yellow loess above.
Top of hill = 1330.

This is a slope facing N. On the
slope S. of road is a grove of
small cottonwoods, well bearing
E. The valley runs W. &
wind catches (blow from
this in cross section -
Parkhurst

□ grom valley S

Another hill has almost no cut
and then the east in sec.

Cut 19 facing E. shows yellow loess - a
dip at base, blue mud? below yellow loess. Gray loess?
(see sample.)

A small cut at corner (Aug. 24) shows blue & yellow loess. Marked on map.

Photos 5 & 6 show modern school
at N.W. cor of sec. 15.

Cut 20 - N.W. line of Twp. S. of hill on
Kansan shows much of the way
up the hill facing E. yellow loess
on top.

Took a series of photos
at Whites. alfalfa & Aberdeen Angus
cattle.

Cut 20, (Aug. 24) Overgrown cut, shows gray streak in road, yellow along
cut faces W.
" 21 - (Aug. 24) Faces E. Similar to last.
" 22 - (Aug. 24) Shows blue loess at base, yellow above.

cut 24.

S. of the 1/2 sec. corner W. of State
house along road there is a low
bank - 2-4 ft - shows gray
loess with iron tubes, nodules,
and a few fossils.

This is not high, its about
1305 at base.

This blue loess runs along
for some distance & lower down
the bluish 'chocolate' is rather
a red hardpan (ferretto) shows
& below it typical light
Kansan.

On N. side of sec. 36, (nearly) there
is a small hill with Kansan
exposed.

Mr. Martin's No. 40 A.
alfalfa field is 5 yrs. old
& the one pastured (30 A.)
is 12 yrs. old.

He is pasturing this 30 A., but
it grows up well so that young

indigestible stuff is not eaten rapidly, &
his cows 100 head of Aberdeen Angus
cattle. He says it makes fine
feed been on 3 weeks & a crop
2 tons to A. has been cut.

The 40 A. tract had been
cut twice, 5 tons to A. & the
30 was beginning to blossom.

cut 25 - Just E. of school house on
N. line of 36 the hill
shows Kansan away up.
There is very little loess.
The bluffs along this part are
rather steep & high on E. side
& show grooves well up in pockets
along N. side of sec. 36, at
about middle, Kansan shows
at base of bluff - limy - with
boulders - grows in grassy part &
on road at foot of hill, marked on plan.

cut 26 On slope up from 1300 ft or
Face N
(E) Kansan shows well up. Yellow
loess on top.

Cut 27

Exposure S of section line (true mile line)
shows blue loess almost to top, on
small slope facing S. - 3-6 ft
v iron banding up a more,
v then a thin red line

Cut 28

A small hill with south
very similar,

Cut 29

The next hill is higher 1350
its slope shows gray loess with
some yellow above.

On return CR & P defect
= 1255

(Cut 40)

On N. side NE 1/4 sec. 27-78-38 - a cut shows yellow
loess. Faces E. (See notes 8/24 - Gray loess)

Kansan shows along road on N.
side NE 1/4 sec. 8-78-38. - on both
sides of the deep gully.

Top of hill on N side NW 1/4-78-38
= 1335; river bottoms N. of

low ridge N. of SW corner 5-78-38.

Cut 30

Cut on slope facing E. near NE cor. of
NE 1/4 NW 1/4-8-78-38 shows yellow
loess at top.

Aug. 20 - 1913 - Wed.
Rained in morning. Packer
packed up material, wrote up
notes and plates, and expected
to leave for Corn Rapids
at 6:30 PM. but a wreck
on the C. & W. at Kalamazoo
blocked me. Expected to
go to Corn Rapids; then, but
event that was not possible
as there was no definite
assurance given that I
could get down.

Went to College Heights at 5 PM
from Heights 40 ft higher
than point of the lake.

Aug 21 1913

CR 100

and attention

Aug. 21, 1913 Thum.

Left Harlan at 6:45 am.
by automobile (537) for
Portsmouth. All the region
between is rolling Kansan
(medium) with loess
everywhere visible. (See location
of larger cuts.)

Arrived at Coon Rapids
at 10 am.

There is a very large
cut east of river. It
East part shows a
horizontal layer - of blue
mud & layers of sand -
at one point - 10' thick -
from 2 - 3 ft thick -
3 ft thick.

Continue the sand layer -
about 2 1/2 ft thick - on top
of mud - below about 2 ft
sand has sandy layer

There is a strong plate of orange sand & gravel
below laminated mud.
At 9:00 the mud (laminated) dip
& then I could not follow it.
The sand takes to 9 1/2.

(See next page
for west part
of cut)

10 ft.

Sample - cut from
11-4 little angle
at 10 1/2.



11-4 1374

CR. 10.0

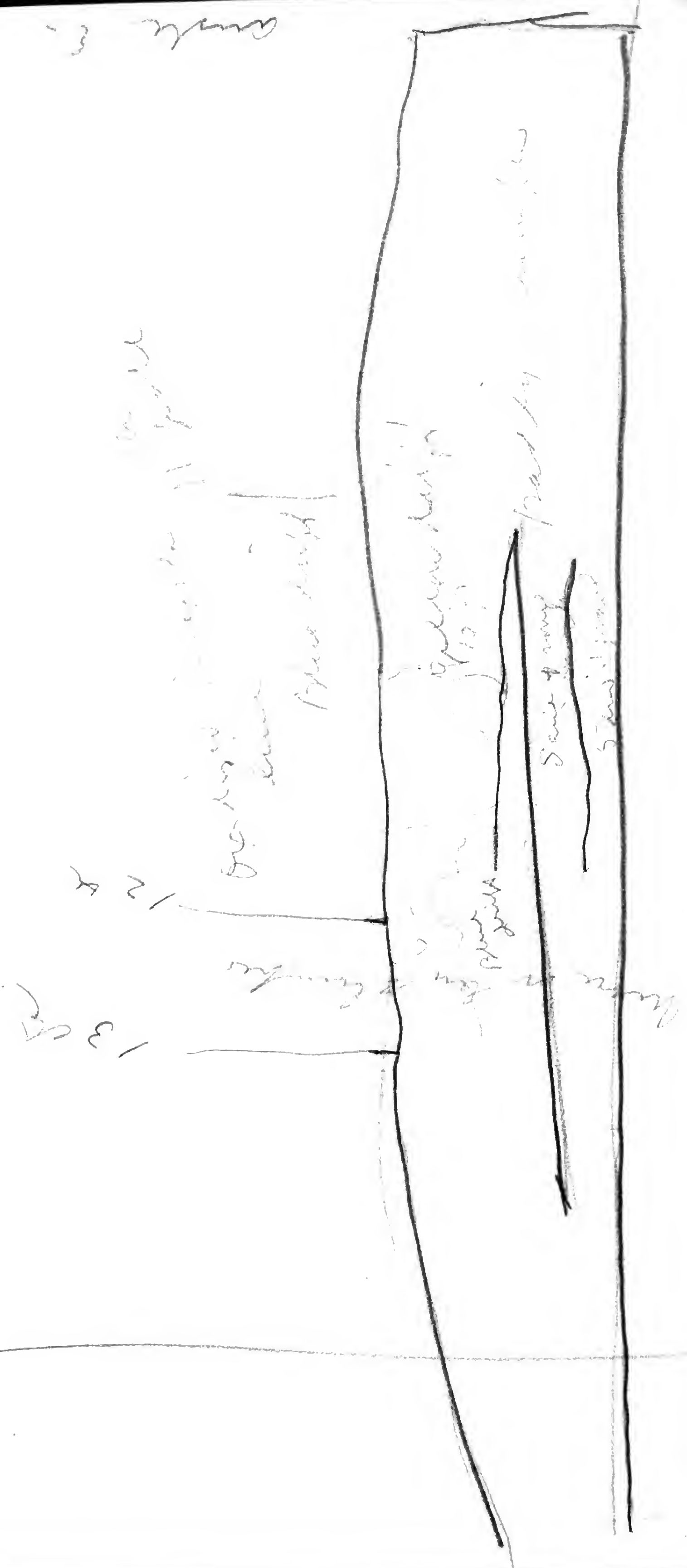
with attention

At the angle there is
 more much. The sand &
 much are also ^{generally} fine
 quantities, but the two together
 make distinct layers.

The east cut is
 about 17 feet & deep
 to a cut of 5 feet &
 then the sides cut 15 feet.
 2nd cut. Between 17 & 23 the cut
 is low - 6-7 ft.

Between 22 & 23 it
 appears as follows:
 (see summary note)

West part of cut (see 2nd line)



11.5.58 1374

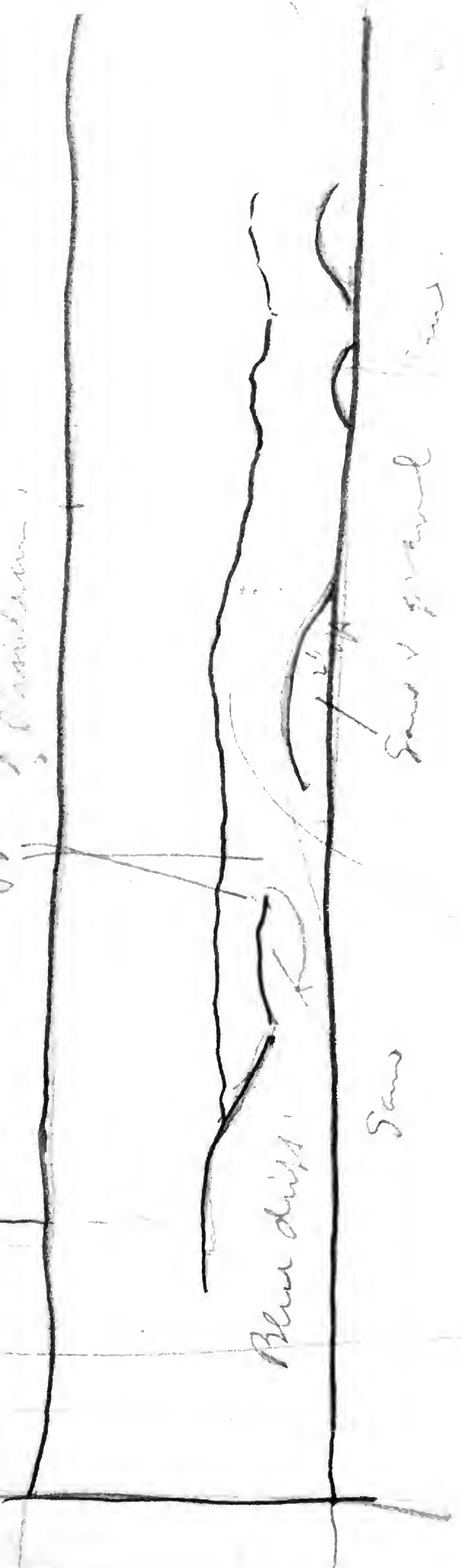
CR. 0.10

with attention

✓ 2/28

21

Two sheets
of sandstone



gray limestone
Saw layers between sandstone

at 20 to 25 ft
of (sandstone and)
sandstone
Saw layers
Saw gravel line
Saw gravel line

West end

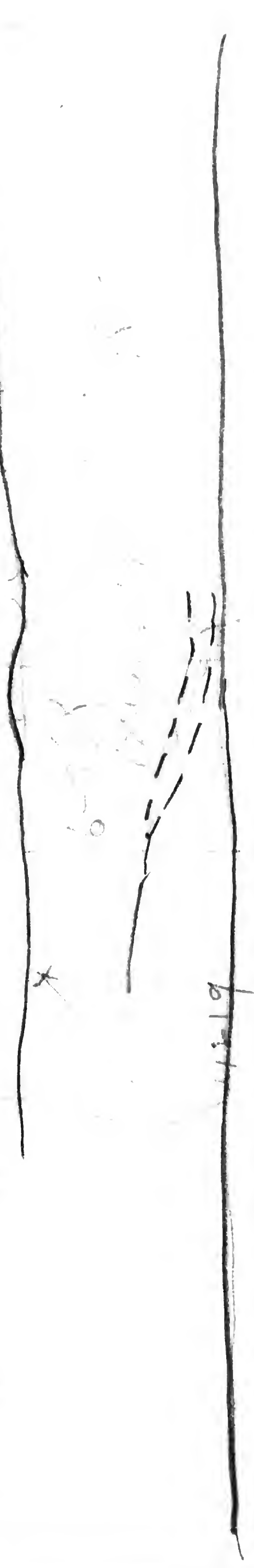
This line is

1251 sample
W. 200 ft
(see note) 124

10-15 ft

3

32



These groups
(see numbers)

11.5.8 1374 CR. 9.1.8 1374 and attention

Then went to the Williams
and, his son-in-law for 5, 10
miles. It is made up of a
mass of sand, gravel & a little silt -
The sand has black flint
(MnO_2) Coarser material
- mostly at the top (soil) -
about 20 drops, or this.
In one place I saw what
appears to be a fragment of
a thin shell - the body, which
I believe was, possibly
of the kind.

top of gravel 1200

Bottom of pit 1213

River, below dam 1170

The lower bottom land
5500 ft. above the Cook river,

The cuts westward along C. M. 100 P. H.
were then taken up and numbered
concentrically as follows: This is cut 1

The mt. in N.E. cor. of 435
is about 15 ft deep & is all
sand, with an occasional layer
of small round & oval bones,
this part above sand being
1-3 ft deep.

This is cut 2,

It The first out beyond row.
shown yellow across

forests, & the common trip

The next ^{this is cut 3.} cut shows larger
chondritic stuff on S side;
about 2 ft. a yellow
stuff (loam); over 5-6
ft. of yellow loam with
bluish-gray streaks.

This had many points
+ also nodules. It is
cut 3 of Tomomix notes.

But the ...

Walked back to wagon road
to Weaver's house. Noticed
on the way that even focus only
a little snap, and that drift
shows on all the ridges far
up the slope.

Had supper at Weaver's and
then returned to the hotel,
found Prof. Macbide and
conferred with him, chiefly
on drift.

11-5-8 374

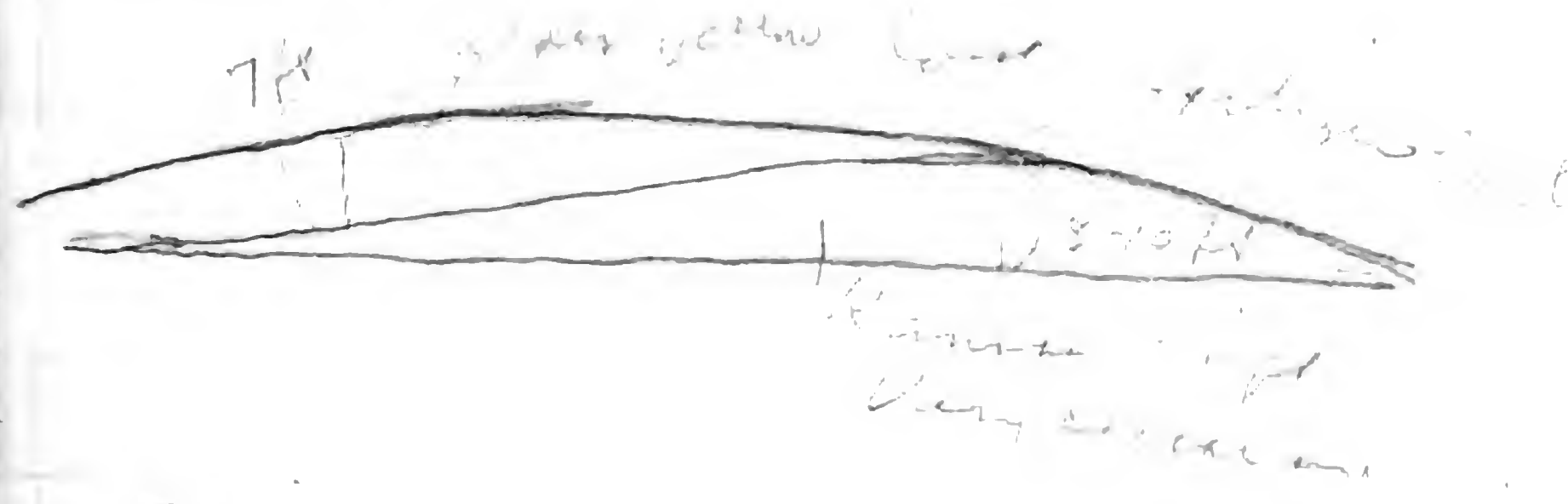
CR. 9.1

with attention

Aug. 22, 1913 - Fri
 Corn Rapids
 left at 6 am for
 Deadham.

Elevation at about 1/4
 Corn Rapids = 1115
 First cut out is the
 sandy cut.

The 2nd cut is on
 S. side



The N. side is similar, but
 Kama ^{tilt} = 15 ft
 oxidized. ferrite is bluish
 and brown about fine feet.
 The ferrite has small boulders of it. The
 7' and no fossils here.

At 3rd cut. RR = 1128
 and top of E. section =
 1148. On return 1120
 and 1141, respectively.

East section of cut 3. W. of Corn Rapids.
 S. side.
 The fossils were on E. slope of the mound.



Thin and begin 7 ft. E. of sec. 28. from top 4 extent
 N. of west. It is a little, a little of the deadham
 two parts. The course is fairly good. The
 part, just under the brown layer, about 1/2 ft. of
 proper.

11.5.13 1374 CR. 1.1.13 and attention

The fossils on the S.
side seem to be
restricted to the top
or belt beginning 25
yds W. of section line
& running for 35 yds.
Both W. & E. of this there
seems to be no fossils.

The fossiliferous belt
on N. side is longer
(about 18 ft), situated
(app. W. end) & the
whole section in the
lower part of the
slope had been
better inhabited by snails.
The slope of ridge
is to much.

At 9 o'clock - reading on
N. side at the
fossilif. part:
Base 1100
top of fossil. in 1117

Top of Level 1121.

Whole sample of surface
brown & very fine
Loam, soft, no fossils.
The layer is heavy yellow,
with bluish streaks &
mottling, & some small
nodules (the same as
yesterday). It is
very porous in the
top & grades down to heavier
more fossiliferous strata of
same kind, which is
in chocolate layer & ferruginous.
The N. side of E. part is
less clear, mostly overgrown,
& overgrown.

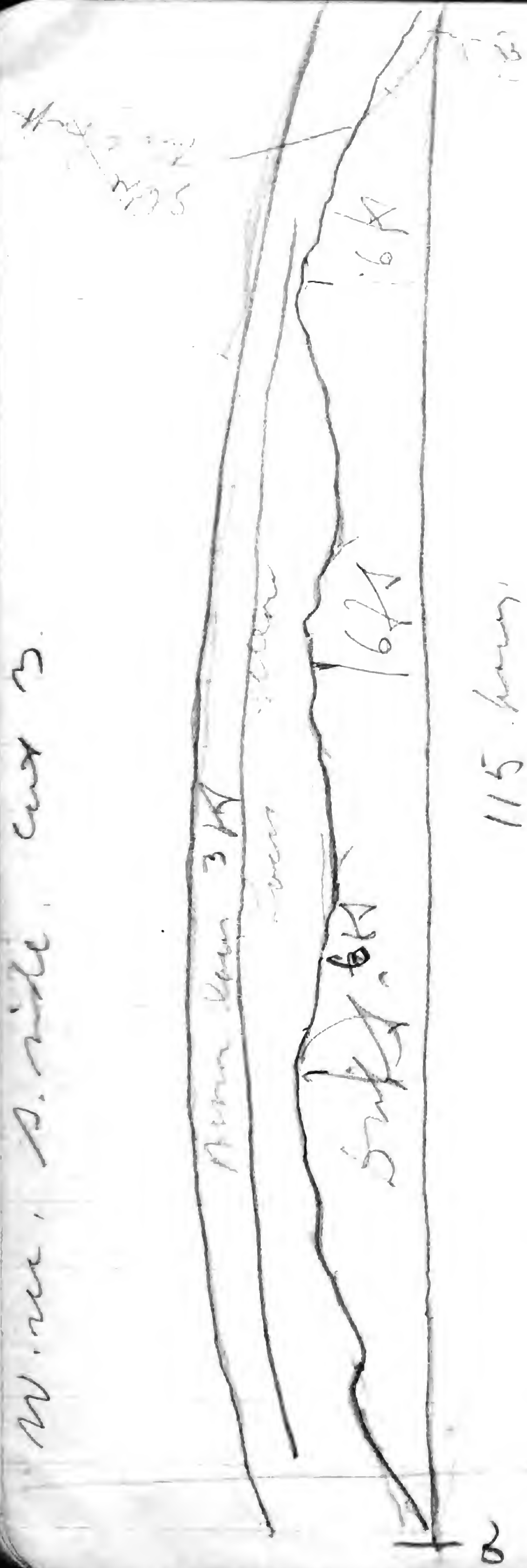
The N. side does not show
so distinct a division into
2 parts, the rock running
out.

1121 1374

CR. 1121

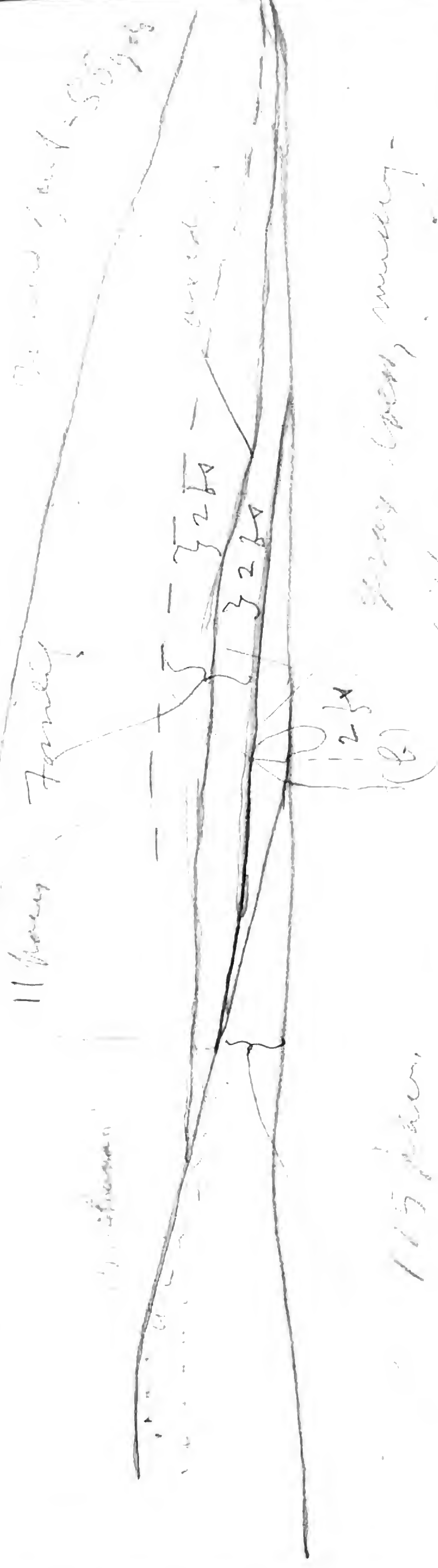
and attention

W. side, S. side, cut 3.



Brookman gravel shows pebbles and cobbles with two lines of boulders (small)

Part of cut 3 (see above) Family



River 2 ft. above level of cut. cut is here 65 ft. wide

W. side at the cut. The cut is 65 ft. wide. The cut is 65 ft. wide. The cut is 65 ft. wide.

The blue & yellow "mud" are not sharply defined except in places by color. This was evidently a bog in a rising hollow sloping S.

Left cut 3 at 11¹⁵ am
Barometer = 1100

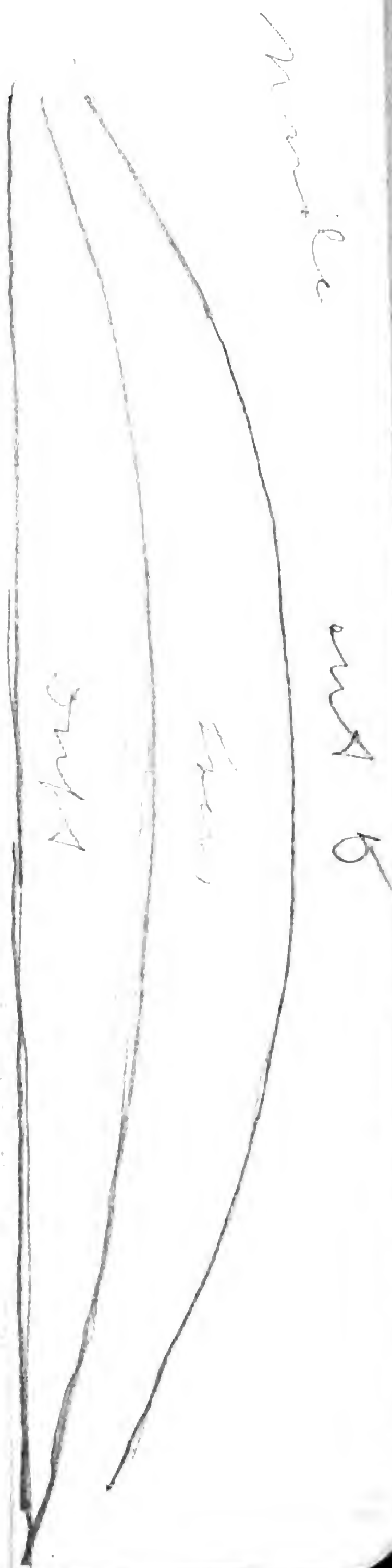
Cut 4 is mostly chiefly on N. side & shows practically only drift.

Cut 5 - shows 7 ft of drift & 8 ft of yellow loam (upper 2 ft brownish) - on N. side. S. side 3 ft drift, 6 ft. loam.

The N. side near center shows a lot of fossiliferous nodules. This is the same heavy yellow loam as before (see shells)

There are some rounded

ends in 150 yds long
Densities in very fine sand & gravel
seen in 6 sand (brown)
A section to the N. shows about 10 ft of
drift & 10 ft of yellow loam (gray)
with some nodules of yellow nodules.



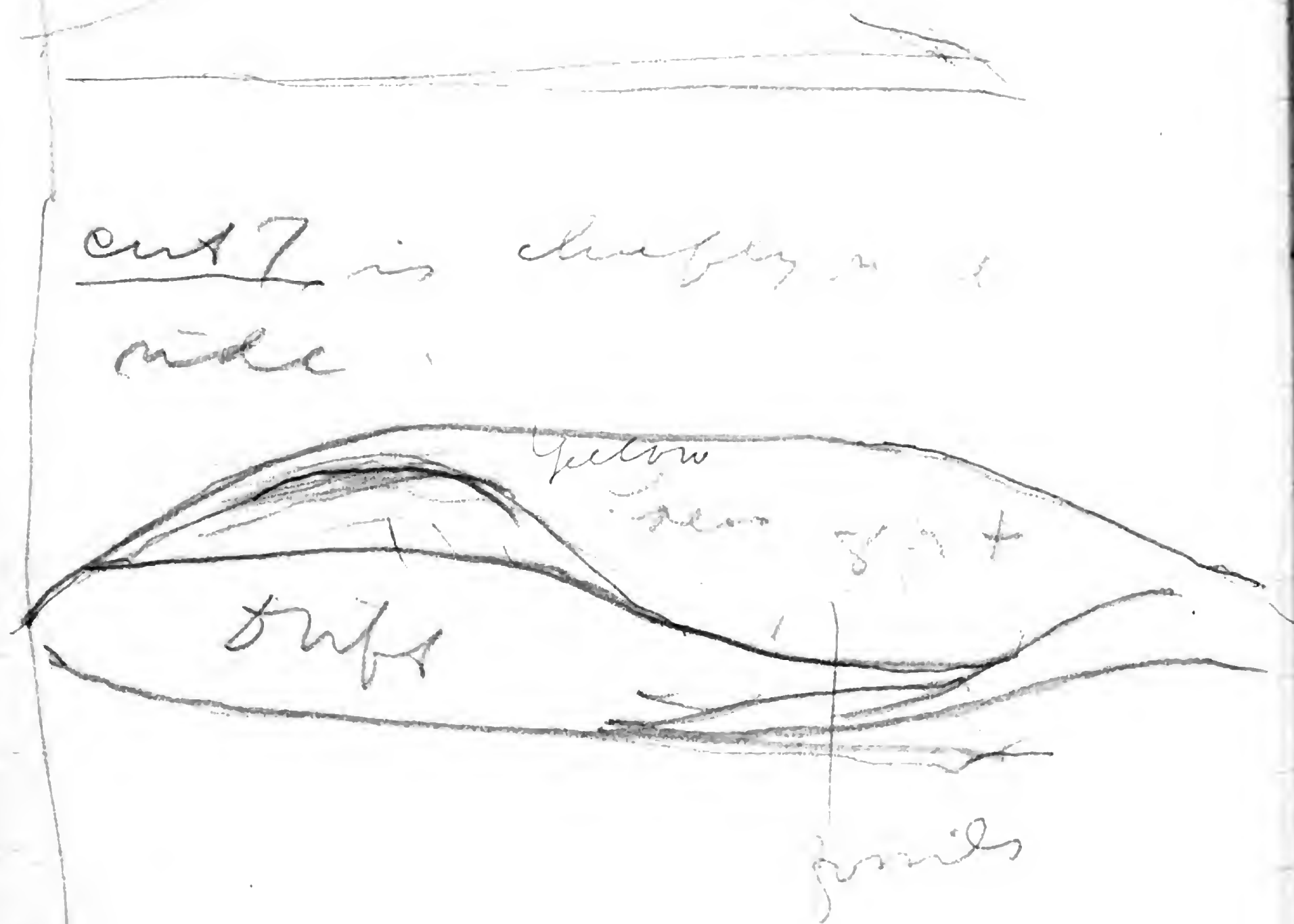
March 1374

CR. 1.1

with attention.

Cut 6 begins on the sec.
line & is 150 ft long.
It is about 15 ft deep
& shows drift about 4
top; a layer of loam, 1-2
ft. thick, showing eastern

side cut 6



The loam is yellow &
fossils are found in
that lower part.

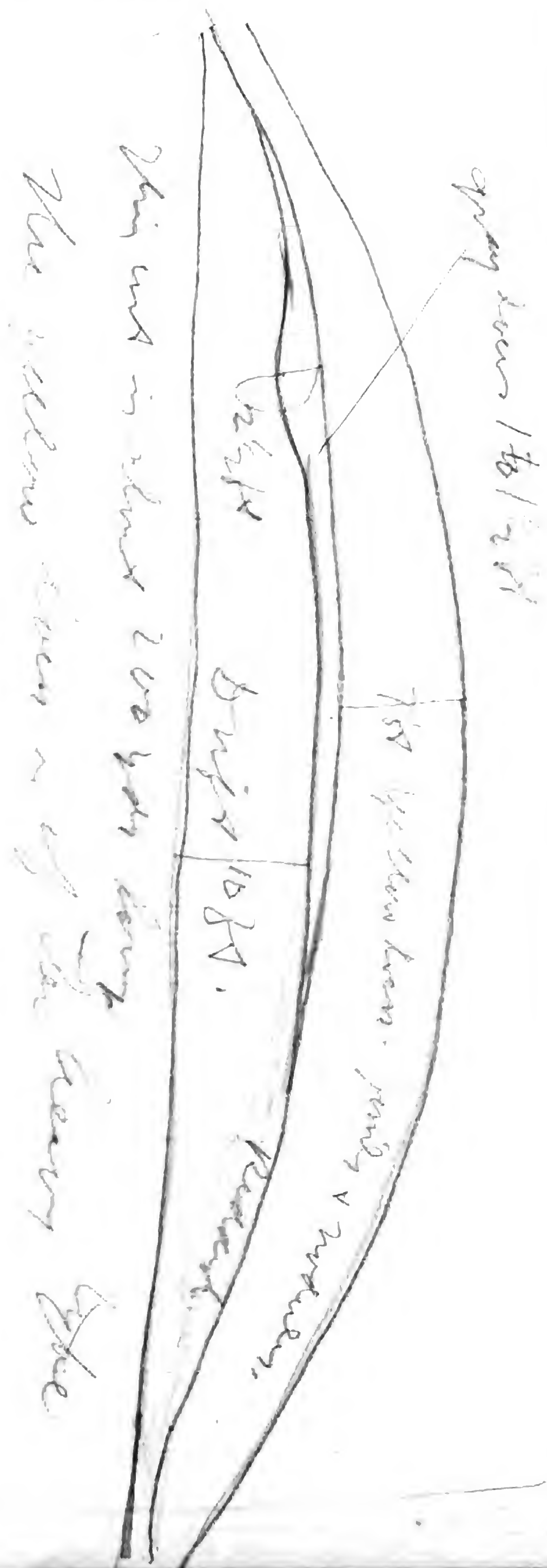
Cut 8 is just off the road
on the left side of the road
It is about 15 ft deep
& shows 3 to 6 ft. of
an irregular mass of red
joint clay (example)
Some of the slumps, as if
there were a road cut
It is a cut.
The middle is lower

11.5.18 1374

CR. 9.1.18

mid attention

containing many boulders & shells
of bones & shells.
Thin in cut & 8 miles on 10. mile cut in
lower part shows drift, yellow loam, & at the
end a pocket of gray loam.



cut 10 is 1000 ft - but
it is 1000 ft - 1000 ft -
1000 ft - 1000 ft - 1000 ft -

Only 1/2 of the road on E. side.
 Just 1/2 of the road on E. side.
 Only 1/2 of the road on E. side.

only, & is little [?]
It is ^{mostly} ~~mostly~~ just the old new
L.R. & some of the old.

Cut 12 is a thin E. of road &
is about all on the side.
The lower part is a heavy
joint clay with few
pebbles - Eastward it
shows calcareous pebbles
in usual Roman fashion
Wks under bedrock

The line above is nearly horizontal & somewhat laminated, then comes one which is quite

CR, 11/1/1905

cut 12 - 60, mte

gray below, with
iron streaks

and brown below 2-3 ft
6 ft yellow brown

(20) 78 ft March 1

Ordinary
Karni

Fossils are scattered all over
many.

cut 13

is small & on level 2 mte

specimens 74/20

slightly

but appears mostly like (2) 8'

not quite as high as (2)

even now 5-6 ft

cut 14 - 60 mte

drift

The 2 mte is similar, but lower, & no fossils

seen here with a few shells

Did not collect here

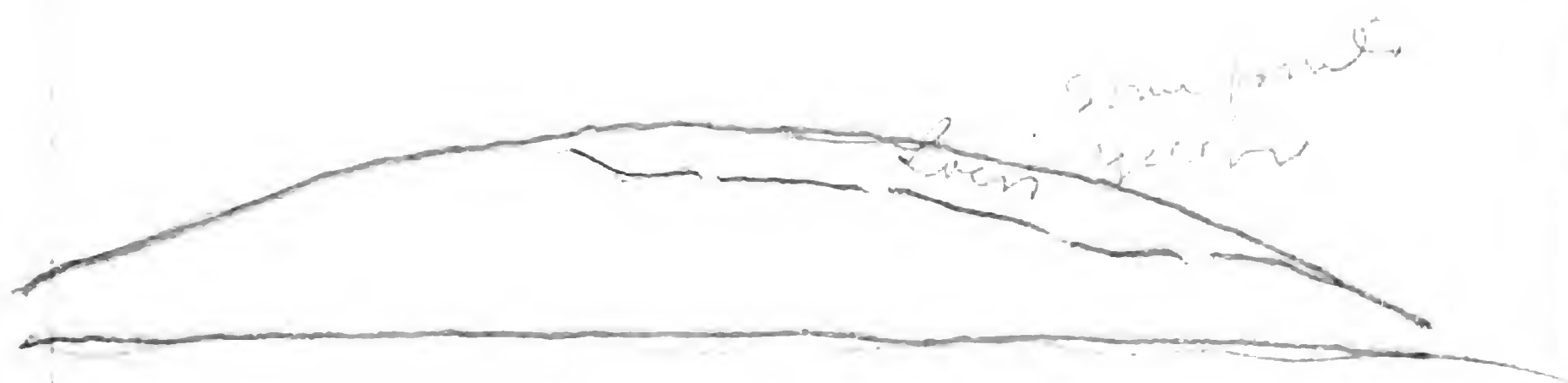
March 1 1937

CR, D. D.

with attention

Cut 15 is unfinished -
just making it

Cut 14 - E. side



On both sides of 14 nodules -
are abundant near top (small.)

The layer of gray loess
on W side is irregular,
but over a foot thick
in thickest place. It
has many iron tubules.

Top of cut 14 - W side 1267
Base - 1239
28
Dashed few fossils from
cut 14, W side

There are two small mounds
in hill above cut 14.

Cut 15 - E. side - 1267
just making it -
the top is -
loam -
loam -

Cut 16 - E. side (ditch)
& shows only drift
Cut 17 is also only in
drift - E. & W.

Then comes long hill to wagon
road.

Quite a bit of
small mounds E. & W.

1267 1374

CR 1.0

with attention

Cut 18 is W. road,
about 25 ft deep
(from base). Bottom 9 ft
is: 2-3 ft sand

6-7 ft. heavy yellow
gravelly sand with
moderate iron nodules.

This is chiefly on S. side (W. side)

Cut 19 is a great cut on
RR. line. It is nearly
all overgrown, but shows
that most of it is light &
there is only a thin bank of
brown S. side. This will be shown.

Cut 20 is new cut just after
RR again leaves old line.

Cut 18. N. side

Photograph - 5, 7

Yellow loam

6-7 ft.

Gravel 12 ft or more

This is a big cut, and is a good

11/18/13 37 ft

CR 1.0.0

with attention

~~under~~
~~Aug 29~~

At turn, on N. side of
32-81-37 There is a bank,
on N.W. side of road, which
shows 8 ft. of yellow loam.
It is rather soft, but of
the glacial type. It has
strata of pebbles, & has
some nodules (possibly of
(see samples) & shells, are
scattered throughout
in lower part. See shells
& samples.

Reading at base of hillside 1345
At base of long slope west } 1265
on bottom } 80

This shows drift distinctly
at base.

The Kansan is light blue
& yellow & has rather
small pebbles, some 500 lb, some
black.

C. & NW. at Darwin 1249

(Aug 29)

C. NW. = 1256
C. NW. = about same. 1249

Point to Darwin, 1256
1249

1256 13745 CR 9.0 1249 mid attention

cut 20 - 8, and 1/2 mile
 yellow gray loess
 1-2 ft (edible)
 15-18 ft

Drift - calcareous

about 22 ft

The N. side seems to be a valley
 deep. The side is level.

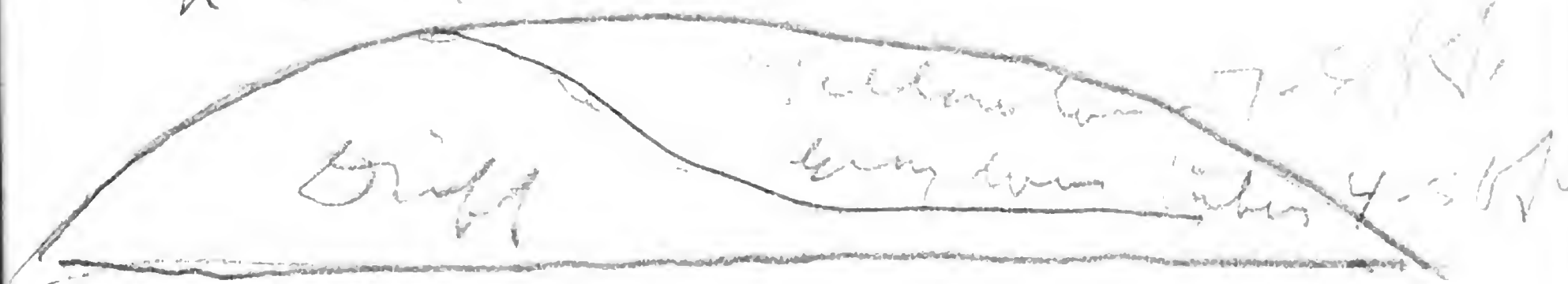
Aug. 22
 from here on

cut 21 46 ft

The main level is at 8 ft
 with a lower level at 4 ft
 The gray loess is 7 ft thick
 of which 4 ft is yellow
 & 3 ft is gray (or small ft)

cut 21 really good
 20 - 28 is high 5,
 much lower 21.

N side



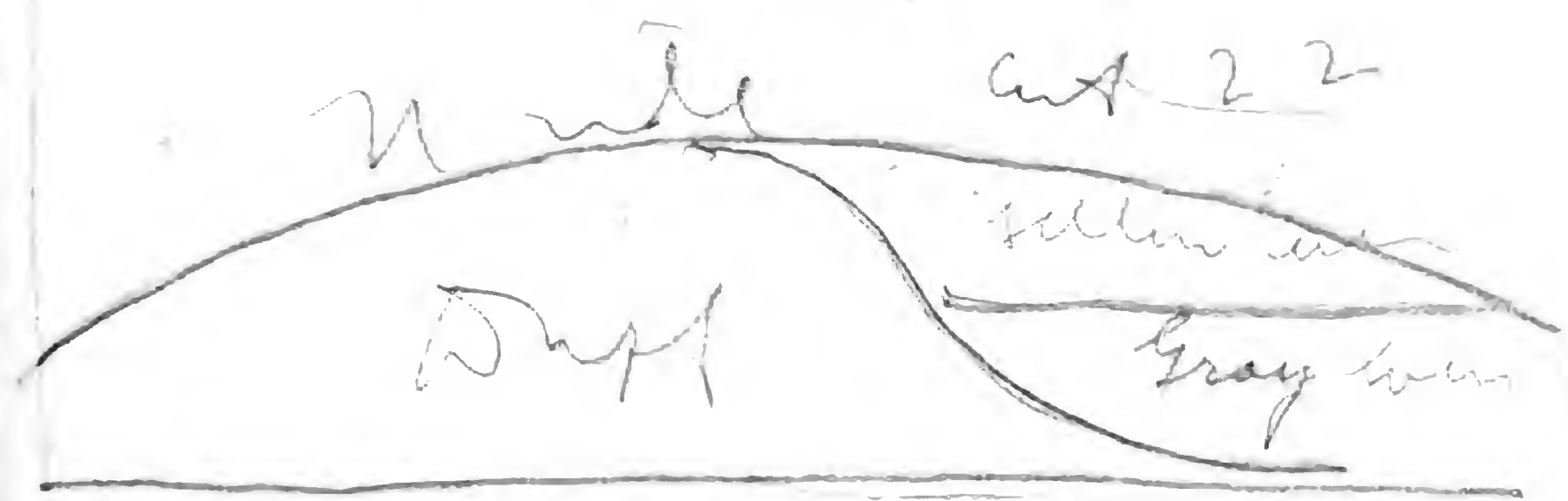
S. side seems much drift,
 & some loess on top.

cut 137 ft

CR. 1.1

with attention

Cut 22 is somewhat larger
 than 21 & is very
 similar to the
 S. side of that. It is
 slightly higher.
 Here S. side is somewhat
 similar to the S. side, but
 shows ~~some~~ yellow (see p. 1)

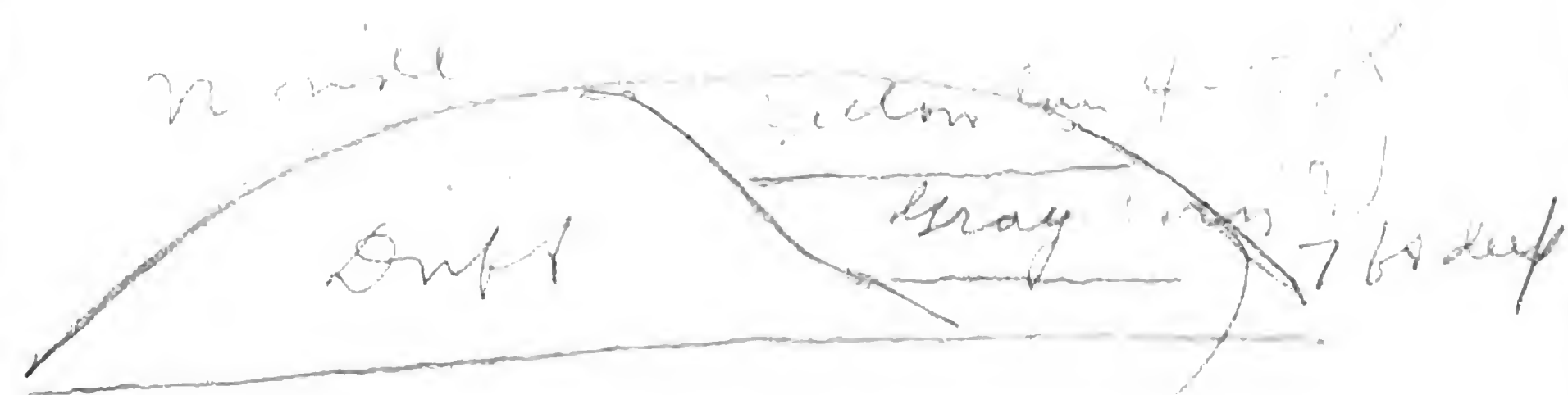


S. side



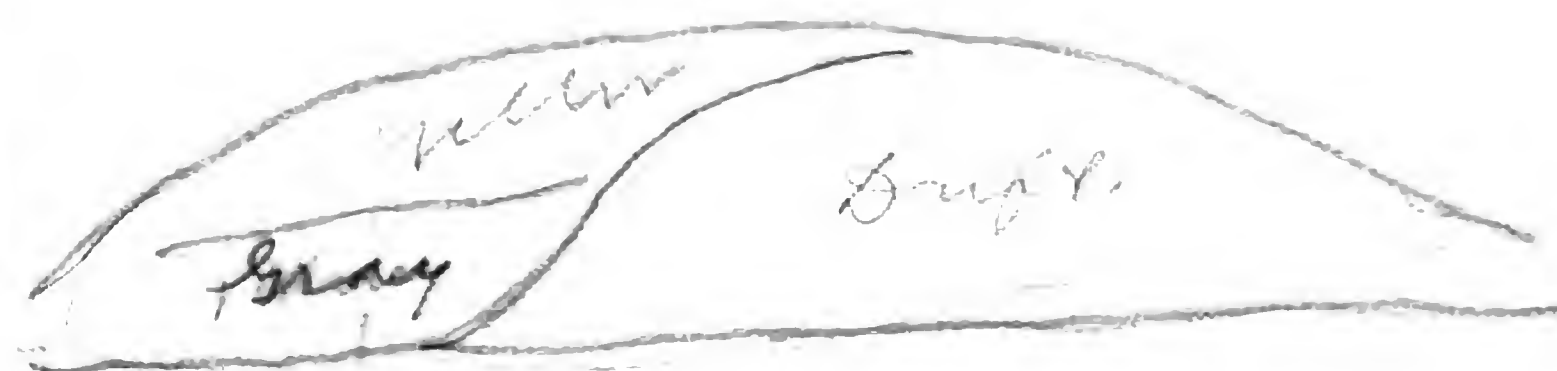
Probably 25 ft deep

Cut 23 - about 25 ft
 high. B. side
 of road, ~~at~~ near



(See sample)

The S. side is same as
 E. side.



6 ft

Cut 24 - large, 10 ft high.
 W. side of road. It has a
 whitish lower slope
 near base of E. side. Is
 this gray loam?

11.11.13 37 ft

CR. 1.1.13

with attention

Reached Sedro Bluff at 7:10
 & left at 7:40 for Manning.
 Arrived approx. to C. & N. Western
 & caught train for Harlan.

Reached Macian at 9:45 AM.
Had been intended food
all day, since the 5:30^{PM} lunch
at Coon Rapids.

Cold night. Was very
rheumatic in left hip
and back.

Aug. 23 - 1913 Sat

Two came the day before
up from the station where
E & H. in a photo car, with son
Allen & a son of Dr. Gus Moore, went
to Rabbit Island.
In addition to specimen taken.

[illegible]

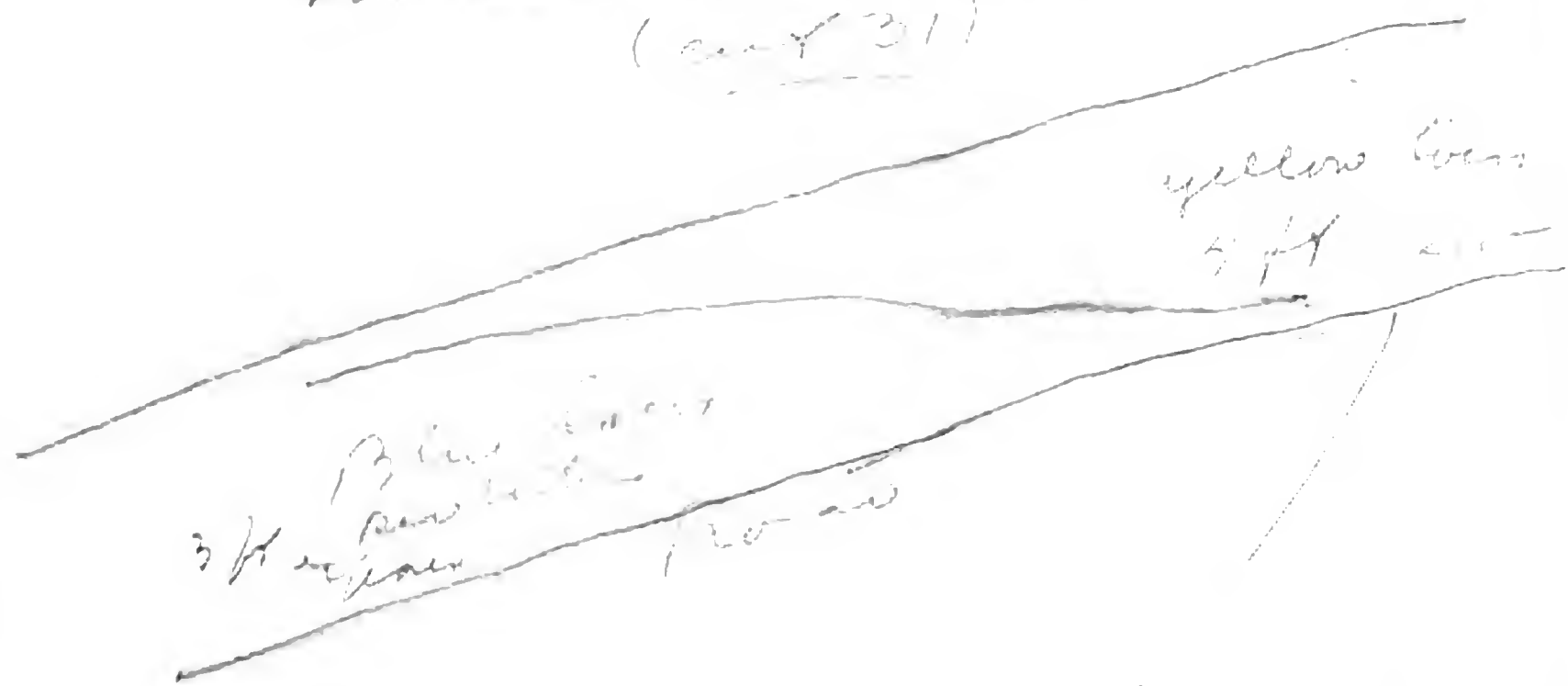
the first ^{and} 2nd tent,
at 3rd the ~~east~~ bank on slope facing
West in no. 10 near Rabbit Hollow
shows both ^{thin} yellow loess. The blue sand
banks & saw no nodules. (over)

1152 374

CR 1.1

and attention

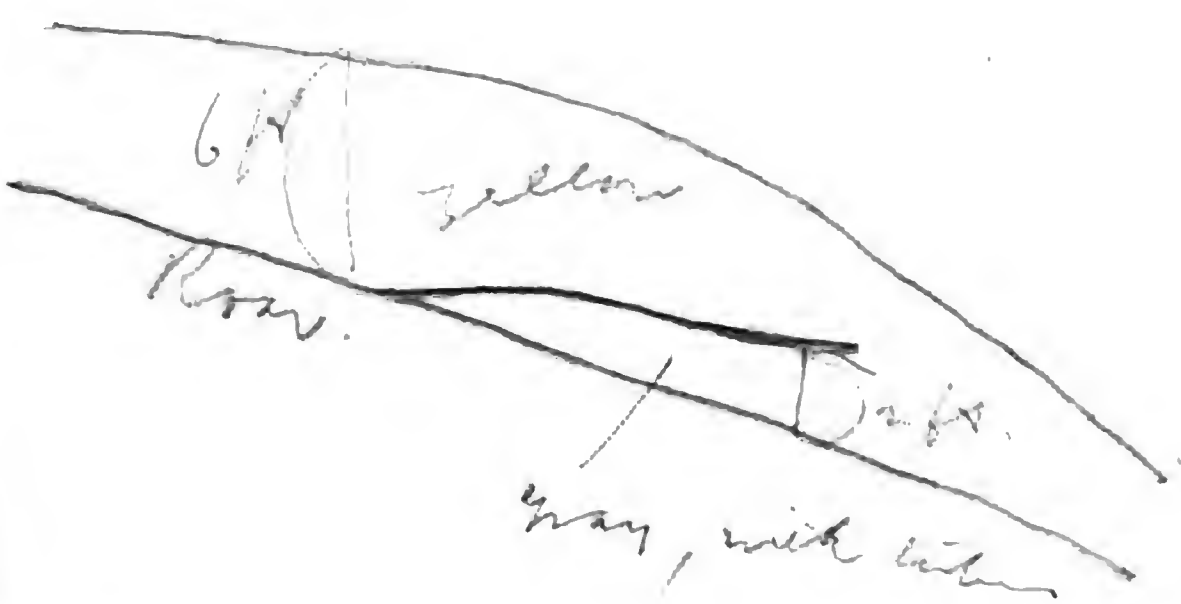
W. side of 2nd cut
(cut 31)



at this point
a red layer (very distinct)
about 1 in. thick was
penetrated by the loam
under it.

Cut 32

The 3rd cut on the same face E.



no fossils. The line
between the two is sharp.
The lower part of yellow
loam has streaks of gray.

yellow loam is exposed on E. side.

W. 1/4 sec. 10-79-38, marked on map.
Cut 33 a long cut showing yellow loam. Face W.

In Bowman's cave
detached from the main mass
of the section below.
Prunus virginiana

Prunus virginiana
Quercus macrocarpa
Shagbark (common)
Fraxinus
Green ash
Rhus glabra
Parrotia (fruit)
Bassia

Podocarpus
Lappula virginiana
Microseris

(Lactuca
maritima (fruit)
Xanthoxylum
Fuchsia? (fruit)
(L. virginiana (fruit))

Quercus
Amelanchier
Cornus (2 sp.)

Agrimonia striata
Desmodium grandifolium
Chrysanthemum

Alnus cordata
Aster
Phlox (pink)

Amelanchier
Celastrus

Prunus virginiana
Quercus macrocarpa
Shagbark (common)

Fraxinus
Green ash
Rhus glabra
Parrotia (fruit)
Bassia

Podocarpus
Lappula virginiana
Microseris

(Lactuca
maritima (fruit)
Xanthoxylum
Fuchsia? (fruit)
(L. virginiana (fruit))

Quercus
Amelanchier
Cornus (2 sp.)

Agrimonia striata
Desmodium grandifolium
Chrysanthemum

Alnus cordata
Aster
Phlox (pink)

Amelanchier
Celastrus

W. side of 2nd cut

Cut 32

The 3rd cut on the same face E.

no fossils. The line
between the two is sharp.
The lower part of yellow
loam has streaks of gray.

yellow loam is exposed on E. side.

W. 1/4 sec. 10-79-38, marked on map.

Amelanchier canadensis (common)
Polygonum humifusum (common)
Euphorbia corollata (common)
Sparganium angustifolium (common)
Elymus canadensis (common)
Carex lasiocarpa (common)

cut 34
 near station. sec. 6, Jackson
 Twp. on down hill yellow
 shows above, blue clay
 below & drift near base.

Cut not distinct, most of
 it about 4-5 ft. deep.
 At Rabbit Hollow found *Scaphiopus* feeding
 on *Disco.*
 I collected shells in Rabbit Hollow
 on a woods bank, rather low down,
 At Bowman's Grove I collected
 shells (under leaves as above) in
 upland woods.

On N. side N. 1/4 - 34 - 80 - 38 yellow loess
 appears in road cut. (Marked on map.)
 On slope facing N. on E. side S. 1/4, sec. 4, T. 9, R. 38, E. 4 shows
 yellow loess. (Marked on map). Kauson shows along road.
 On return the intersection of
 wagon road & C. & W. RR.
 near Marilyn's Brickyard = 1220

Aug. 24, 1913 Sun.

1177 on E. 1/4, W.
 1165 " 8 & P
 1150 near bridge S.E.

1200 " of 1/4 sec. 4, T. 9, R. 38, E. 4
 cut 35 -
 The cut between the corner of
 sec. 20, Centre Twp. & the foot of
 hill runs 5-6 ft. deep and
 shows yellow loess above &
 blue clay below, with some drift.
 There is a number of rounded
 nodules (see samples). Shells few.
 The lower half of the lower
 drift, separated from road by
 a gray clay (not over 1-2
 ft. thick) with small nodules,
 but much harder. *

High place E. 1318
 Road & road but only appear
 here along the road. Also fine
 trip of upland prairie
 with blueberry.

Aug 26 looked at the same place & saw
 24 years ago or so before the road was
 made, & much of the drift was
 there.

1177 1374 CR 10.1 10.25 mid attention

- ✓ *Oenothera biennis*
- ✓ *Helianthus scaberrimus*
- ✓ *Veronica novboracensis*
- ✓ *Eragrostis canadensis*
- ✓ *Cirsium*
- ✓ *Rudbeckia hirta*
- ✓ *Psoralea arguta*
- ✓ *Euphorbia corollata*
- ✓ *Thalictrum flavum*
- ✓ *Scrophularia capitata*
- ✓ *Helianthus*
- ✓ *Cassia chamaecrista*
- ✓ *Aster laevis*
- ✓ *Eleocharis acicularis*
- ✓ *Stachys spicata*
- ✓ *Helianthus scaberrimus*
- ✓ *Solidago canadensis*
- ✓ *Silphium integrifolium*
- ✓ *Brassica cretensis*
- ✓ *Asclepias verticillata*
- ✓ *Solidago canadensis*
- ✓ *Amorpha canescens*
- ✓ *Belamcanda chinensis*
- ✓ *Asclepias verticillata*
- ✓ *Solidago canadensis*
- ✓ *Amorpha canescens*
- ✓ *Belamcanda chinensis*
- ✓ *Asclepias verticillata*
- ✓ *Solidago canadensis*
- ✓ *Amorpha canescens*
- ✓ *Belamcanda chinensis*

Four small cuts on N. side of NE 1/4 29-79-38. show yellow loess (see map).
Two smaller cuts on S. side 21-79-38, show yellow loess. (See map).
Two cuts on SW 1/4 S.E. sec. 21-79-38 show yellow loess. Best one is Carsey.
Cut 36 - on S. side 21-79-38 shows 5-7 ft. of yellow loess.
Cut 37 - on S. side 21-79-38 shows 5-7 ft. of yellow loess.
Cut 38 - on S. side 21-79-38 shows 5-7 ft. of yellow loess.
Cut 39 - on S. side 21-79-38 shows 5-7 ft. of yellow loess.

From these cuts it is seen that the yellow loess is usually 5-7 ft. thick. It is usually yellow, but sometimes it is brownish. It is usually soft, but sometimes it is hard. It is usually smooth, but sometimes it is rough. It is usually clean, but sometimes it is dirty. It is usually dry, but sometimes it is wet. It is usually light, but sometimes it is dark. It is usually soft, but sometimes it is hard. It is usually smooth, but sometimes it is rough. It is usually clean, but sometimes it is dirty. It is usually dry, but sometimes it is wet. It is usually light, but sometimes it is dark.

cut 40 The cut shows yellow loess on S.E. part of sec 22. The loess is blue loess with iron ore. It is 3 ft. thick. Took sample of it. It is yellow in color. It is mottled & rather heavy. 115 ft. Bridge across Kishwaukee.

Many more on N. & W. side. Looking E. Photos 9, 10, 15, 16.

NE 1/4 29-79-38 CR 110 110-115 mid attention

The road is gray, where
blue loess is seen.
(cr 15) ~~Wingy~~ ^{near S.W. cor}
rec. 17-19-58.

Blue loess below - chert
iron tubes, nodules, fossils
(see rd) yellow loess above

Saw also, many thin
veners of loess. See sample 1, gray loess.

At top 1 or 2 ft loess

1160 bridge
1174 - CR 92P

1308 - at hotel at 5:45 PM
In afternoon drove out with Shepley to Zuni
Took photos 23x & 24x
of "Lincoln Park", N.A.
Escher's place on the E. side
of nr. 19, Lincoln Twp.

March 13 1958 CR 92P and attention

August 25, 1913 - Mon.
Newfield hill - 1358, - 100 ft. high
and

Cut 41 On slope
... ..
5-7 ft

Cut 42 Cut to is
W.
its lower 2 ft
... ..
Tubules & forams (see spec)
and this
... ..
Transition
be quite gradual.
The yellow
on the N. side the transition
is more abrupt.

Cut 43 Cut at very low
... ..
just above the
is much, then

1374
CR 100
mid Atlantic

loess with tubes. No fossils.
Could not make out much
more.

Yellow loess. 4-5 ft.
exposed & contains mostly
rounded, nodules, coarse.
In lower third of slope
some small nodules
appear at surface.
Slope faces E.

Cut 44
Cut d. in road. Slope facing
E. The base is a drift.
well up. 4' or less, then
gray belt of loess on
road. This is gray loess
(much at very base) with iron
tubes & scattered round nodules
seen in fossils.

It is probably 2-4 ft thick
above it, ^{the} and (with gutter
on side) runs 5 to 7 ft. but
is overgrown. Shows yellow
loess, heavy nodules.

Top of hill = 1417.

Photo 5 & 6. View of road & creek.

S of W.

Cut 45

Cut e is not very distinct but is a

gray streak. It is a

Cut 46

cut of a red much larger stream
at base. This is ~~indistinct~~ gray
streak) but is not very distinct.

Cut 47

Cut of gray, E. slope, in
loess about 4' or less.

Cut 48

at 1467 - there is a low
cut on very gentle slope near
top of plateau, which
shows gray loess - with
iron tubes, with very
strongly rusted layers
above (5 or 6 in. or more)
I could not make out
distinct yellow loess, but
there seems to be some.
It must be very thin.

Photo 8. 137 ft

CR 4. 1. 2. 3.

with attention

cut 49 ^{same as}

Cut i. is 3-4 ft., but largely overgrown. The little gully on each side shows loose sand.

The usual gray shales, with good gray lens, from below & all, but no fossils, appear $\frac{1}{2}$ way up - Above this, yellow.

cut 50

Cut j. is similar - facing E. but quite as prominent.

cut 51

Cut k. is practically all yellow lens.

Shows little but - gray lens low

cut 52

Cut l. is 4-6 ft. mostly yellow but seems to show gray lens facing E.

cut 53

Cut m. shows gray lens below

yellow

on top of sec. 13-79-40 two yellow lens exposures, see map.

cut 54

Cut n. is on a rather small slope, facing E. Gray lens is exposed for $\frac{1}{2}$ way (5 ft. vertically) up the slope & the rest is granular yellow lens or sand. The gray lens has many iron tubes, quite a lot of

concretions & ...
The shells are of ...
typical in ...
Carychium ...
Strophomena ...
& many fine fossils (see ...)

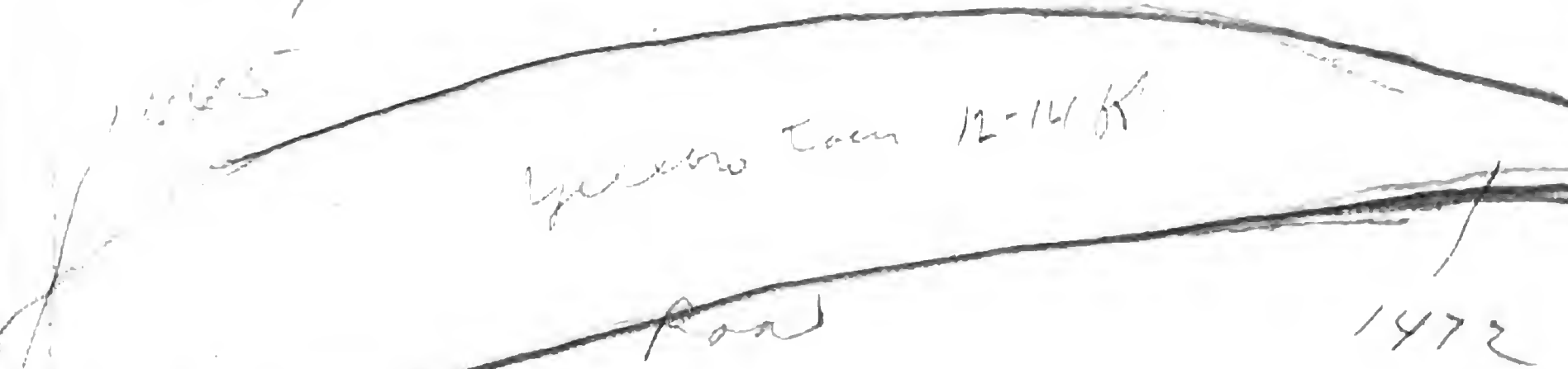
Just under ...
modern form

cut 55

Cut o. shows yellow lens ...
along slope quite a lot of gray
with tubes & sand ...
drift at foot of ...

cut 56

Cut p. is the deepest cut ...
looking



The gray lens shows only at base north, about 1-2 ft.
The line is quite sharp ...
yellow lens just above is more

Map 1374
CR 100
1375

mottled than higher up

The yellow layer is just like that
of western ramon. It has
faint netting, but rather more
close. A few small, round
nodules.

Base of cut 1445 (bottom 5 ft. low)

About 150 yds long

Top of road 1472
Yellow layer in 3 cuts. See map. -- sec. 15-79-40
cut 57 Cut is long, yellow above, just
a little gray towards base &
red mud at base.

Stopped at Portsmouth.

Dinner at Portsmouth Island

Feed barn.

R.R. 1360

1412 is top of mty above r.

cut 58 ^{faces N.} Cut is - shallow, along road,
shows drift almost to

top of ridge (not its highest
part) There is only a thin
veneer of yellow layer on top.

cut 59

S. - shows gently drift.

cut 60

(m. 14-14-14) shows yellow layer a foot
or so, gray above. In this area
shows gray in drift. 1442 on
S.E. side. 5. within, down hill, drift
shows again.

cut 61

U. - shows drift with
m. 14-14-14. gray layer is
not thick. 1450 ft.

On high ground here

Polygonum ramon

Barbarea strobilifera

Barbarea strobilifera

Alnus incana

cut 62

V. shows the black yellow layer
(10-2 ft. exposure) with few
large nodules & fragments of
shells, Receptaculum S. avare

RR 1374

RR 1375

RR 1376

Cup 3.W - shows much drift at base. Forest up hill S.

cut 64 X stem about 1/2 inch, -
with much reddish, only
less at top, some of the
nodes are very low,

Creek 13 P 5

Form 7 full 1410

Top of Karna 1445

ent 65 Top of row 1455

y- cut down to base & up - then a streak of gray (brown), vertically about 1/4 ft. with few spec. of brown. Then yellow (tan) with large round nodules, in shells scattered through, more than in gray.

The cut rises about 4 ft above top of road

The upper part of the sea
has many small islands & reefs
I tried.

The difference in color on a
(which faces W.) could be seen
a half a mile W.

Cut 66
Cut 2. is not deep and
shows gray loess thicker,
with many small nodules, &
iron tubes. I saw no shells.

Upper part yellow.

Cost only 4-5¢ per cup. Will
keep.

eng 67

cut A is 7 ft deep, overgrown & shows yellow loam. Fair E.

cut 68

468
10- facing W. Similar to D.

eng 69

cut 69
N. of 69 a cut in road shows gray streak in top

cut 70

76 - " i - Dry low shrub
stems & not many
yellow above.

1457. 374

CR, 1.0

126

and attention

cut 71 shows gray and yellow
loess. A low cut.

For dark to see remaining
cuts,

Aug. 26, 1913, Tues.

1323 = RR JVP depot

Another quiet clear day.

1305 - ridge S. E

Looked again at ^{cut 35} ridge near S. E
of sec. 20, 79 38. See notes, back

(Aug. 24)

^{cut 72}
In N.W. part of 31-79-38 dip
appears along road which have
just cut into sand. Sand, white,
shiny, - mostly small.

There are exposures E. of this
cut which have the appearance
of old deposits, but show no
trace of sand, - only yellow loess.

They are near top of ridge &
quite extensive.

Corley - RR - 1260

^{cut 73}

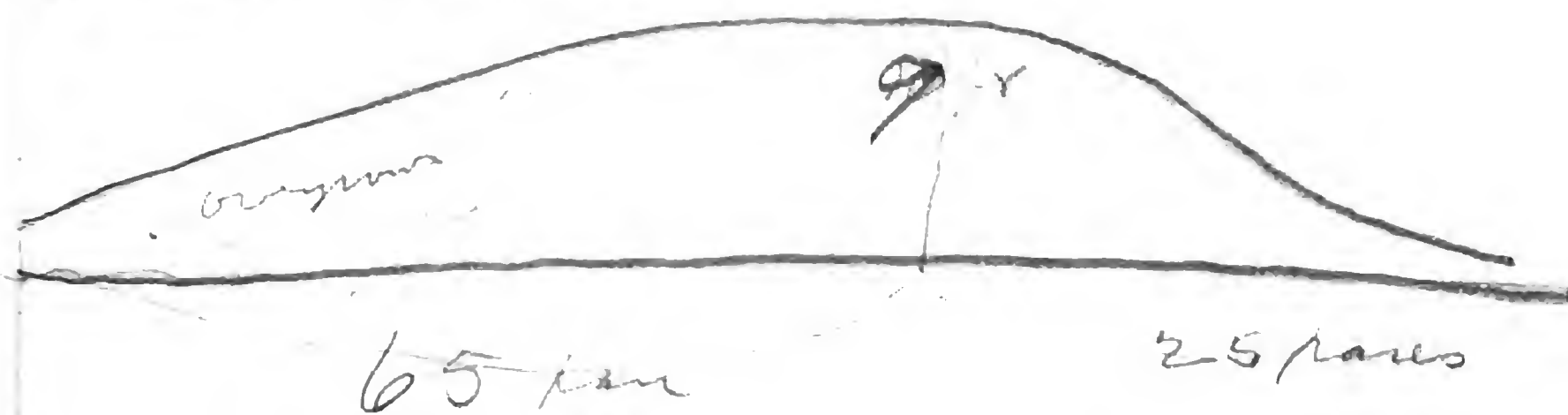
cut E just above Corley is in
end of terrace like plain.
It is over 400 yds. long, 9 ft
deep. It shows yellow loess,

Map of 13745

CR 9.0 1000

mid attention

loose, with some gray, decaying
red nodules or fossils.
W. side cut E



Took sample from a pt. 6 ft. below
top of cut at highest pt.
from talus ^(mud) ~~mud~~ & shales
in bottom land at Corley.

saw a lot of fine walnuts,
all the terraces below Corley
show yellow dirt, ^{in road} & yellow cuts

Stopped for dinner at
Hardy Fredericksen's house.

1274 - Dinner in front of Fredericksen
house

1250 - River bottom N.

Just below house N. of
Fredericksen, there is ^{in this part of the} gravel
bar. Few in river. Shells.

No shells on it, these stream

are ^{very} abundant, decaying

cut 74

Cut F is over the E. side
12 ft deep

The loess is heavy, gray,
with many dark streaks &
streaks of red (all the
few nodules).

Below it is a very thin
with a few large tubs, & few
fragments of fossil shells.
In the 2nd place there
are shells - 6 ft from top

& up. See samples. The
latter are mostly yellow.
All this (almost) is
to be gray.

cut 75 also shows gray ^{similar to 74 but smaller,} loess.

cut 76 was just being cut &
showed only yellow loess.
It is 4-5 ft deep. Contrast
with 74 is strong.

Handwritten notes on the right margin, including '374' and 'CR 100'.

Returned to Kaskin

Aug. 27, 1922. Wed.
Spent forenoon working up hills
and photo.

In afternoon worked out to
Baughman Canyon.

1261 elev. at top (C. or W) at
intersection with road. Soil of
Baughman Canyon.

Cut 1
Examined the Baughman Valley.
There is a scraggy, rocky road
at base - Scirpus, etc.,
etc. growing there.

The bank is about 20
ft. high, but is a loose,
lumpy bank about 1/2 ft.
only is clear. It is gray
loam, brown below. Bones are
~~found~~ ^{mostly} at 1-2 ft. (fully
near base).

The "gray loam" is
best at about 6 to 10 ft
below top. The iron

Height 137 ft

CR 9.00

mid attention

tubes a low wall, there
are some rather large
or medium sized
shell as in the water about
in it.

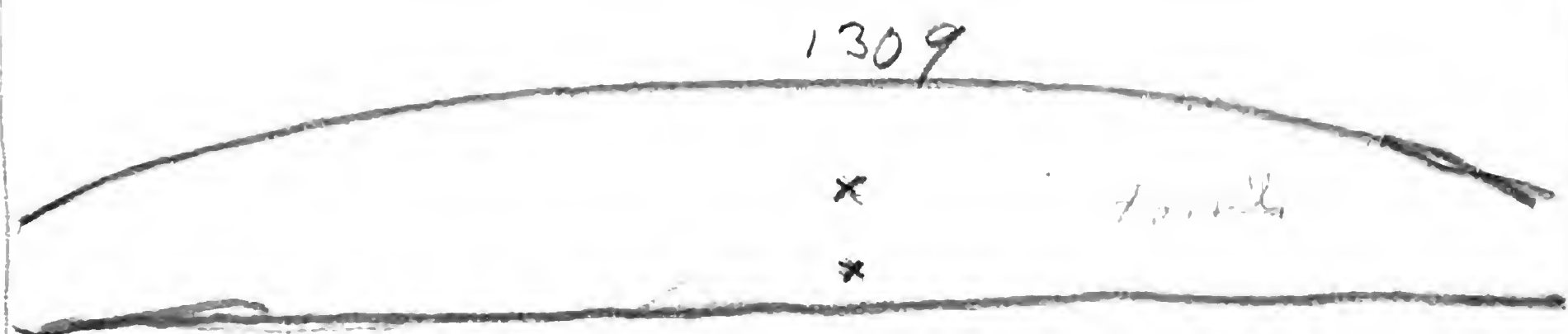
Downward the lower is
mudstone, without fossils,
with some nodules, &
there is a ^{muddy} ~~irregular~~ band
appears at about 5 ft.)

At 15 ft from top of the
muddy band above. The
stuff is here almost muddy.
Most of it is darker blue gray
& has muddy streaks.

Through it.

The gray layer runs down
10 ft. Then there is a
similar layer, but muddier,
with horizontal muddy or
brownish bands, & broad
brownish streaks or bands.

as if it were a gray layer
I could trace little tubes
& very rusty ~~streaks~~ ^{streaks}
in it. The water of the
springs seems to come out
just below the top.
There are no more tubes
in lower part. Looks
water laid. The gray
cross is hard when dry,
has iron tubes & a good
many larger, rounded nodules.



Samples

Brown

The top shows 1-2 ft. of ~~gray~~ ^{yellow}
& yellow stuff, but evidently
part of same layer.
Lowered by roots, etc.
Top of bank 1309
Base of shungite part = 1379
General level of brickyard = 1374.

Height 1374

CR 9.00

mid section

The ridge of the U. is
about 20 ft. above top
of bank. It is a
long, thin, low ridge, a
part of general topography.
Picked up shells under leaves
above bank. *Corbula* &
Mac. avosa were most abundant
on higher banks among *Syringophora*
verruculata, etc.

Cut 2 is an irregular series
of exposures over 100 ft. wide,
with slumps where water
scaps out.

At 1305, in the path,
there is Kansan drift
reddish & gray, hard, with
pebbles. Just above
this path there rises a
bank of gray loess, about
6 ft., with numerous

nodules & pebbles.
The Kansan drift is
just a small bit on the edge,
possibly a remnant.

Below it on bank is gray
stuff like at 1.

I cut into base of bank
of loess & found
oxidized layers & layers
of sand, some somewhat
similar to that at 1.

All this is above reedy
places.

Towards N. end of sec. 2
there is an exposure
more or less slumped,
which shows at base
6 or 7 ft. of rusty more or
less conglomerated sand &
gravel, below which
water scaps out all
along. This changes

13745

CR 9.0

mid section

quite a briefly exposed
into a heavy drift
like stuff (see sample)

The red color of both
shows in the dissection,
but the transition is
quite abrupt.

There must be at least
6 ft. of this red drift
& then it grades into
at least 6 ft. more of
red mud. On top
of all this is gray
loam.

The base of the sand &
gravel layer = 1307

Under the sand there
is a layer of heavy
blue black stuff
similar to the brash. ^{It is the brash}

Its top = 1313

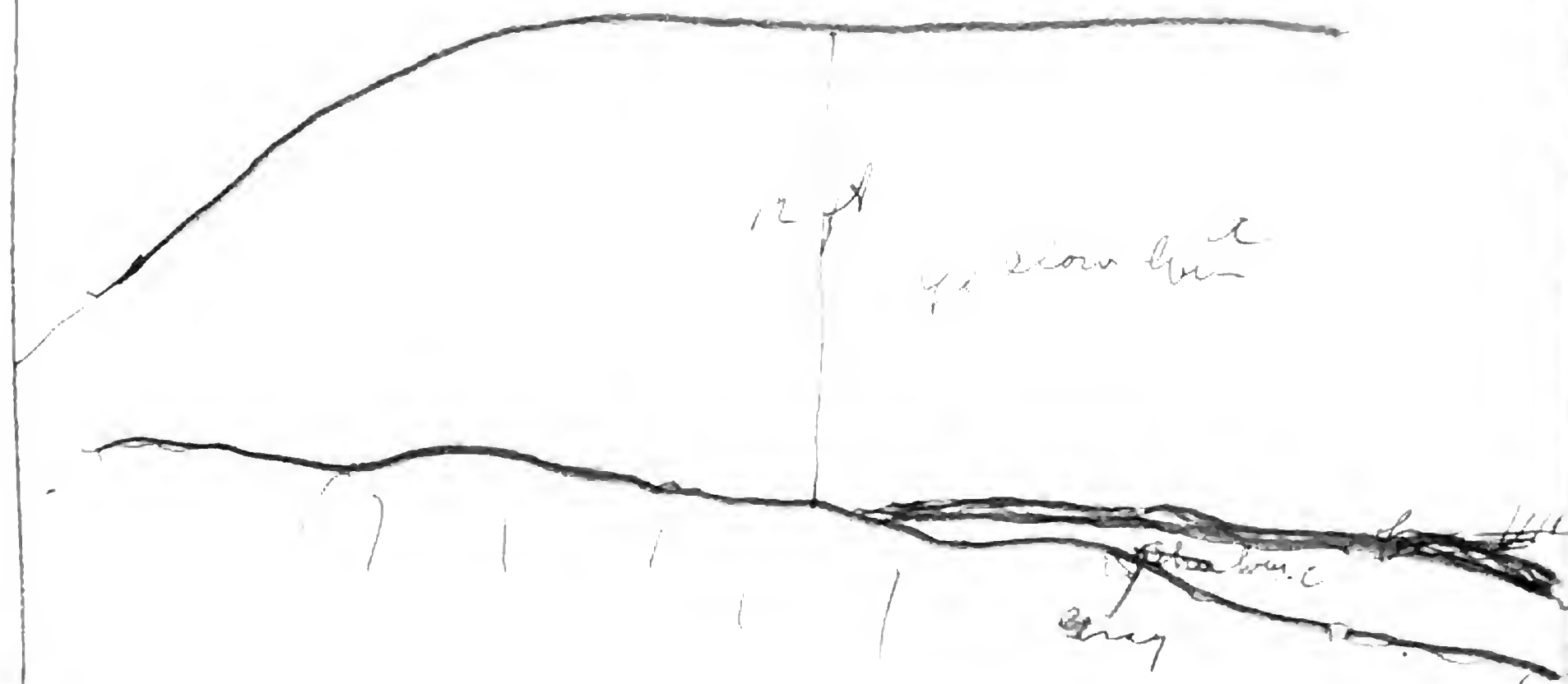
Water in river bank 1290

Water runs out from
this canyon for a
short way below the
The water in river is about
8 ft. above the level of the
bank

1297 = top of gray drift
1300 = Redfield hill - top

Cut 3

Red field cut - about 12 ft.
exposed. Base about 7 ft. above
natural bottom & the latter is
about 8 ft. above river.



a = yellow loam with grayish mottles,
compact, with some nodules & shells
scattered all through. See spec.

March 13 1895

Dr. A. D. 1290

mid Atlantic

C. The green leaves above the water,
which are rather like (P. l. n. 10; etc.)
but could not be seen. Took a few.
It has been struck, and is very large,
but some mollusks ^{some} ~~are~~ ^{are} present.
About 1 ft. in diam.

The end of it

25-26

4

Top of cut 5 1207

Two Cpts near SE. cor. sec. 25-79-39 are at edge of bench & show yellow loess.

cut 77 { More experiments with wire

cut at NW corner of sec 36-13-37

shows gray color in the top of the
layer & a little bit of red in the
on top showing some of the
along the lower edge (gray)
yellow above. The cut shows

mostly in little patches along road
Yellow ochre shows in cut W. of 77. See map.

cut 78 on n¹/₂ of NW¹/₄ - 35 - 79 - 34, a low
cut across up side () and
down () to U () 14 to 15 gray
loam up to 15 ft. 16 to 17 ft. 18 to 19 ft.
20 to 21 ft. 22 to 23 ft. 24 to 25 ft.
You can see yellowish gray.

1852. 375

CR 910

and attention

Oxidized band also seen on
 side and bottom of cut 7. 16,
 cut 7.9.
 Near NW cor of 35-71 39 gray
 does appear in 16. It is many
 small nodules, which is little of the
 trunk lines. It is a little
 like gray. The same part of cut

run 2-3 ft. water.
 cut 80. Shows gray streak & nodules in yellow. These
 cuts 81 & 82 are along RR & were not examined.

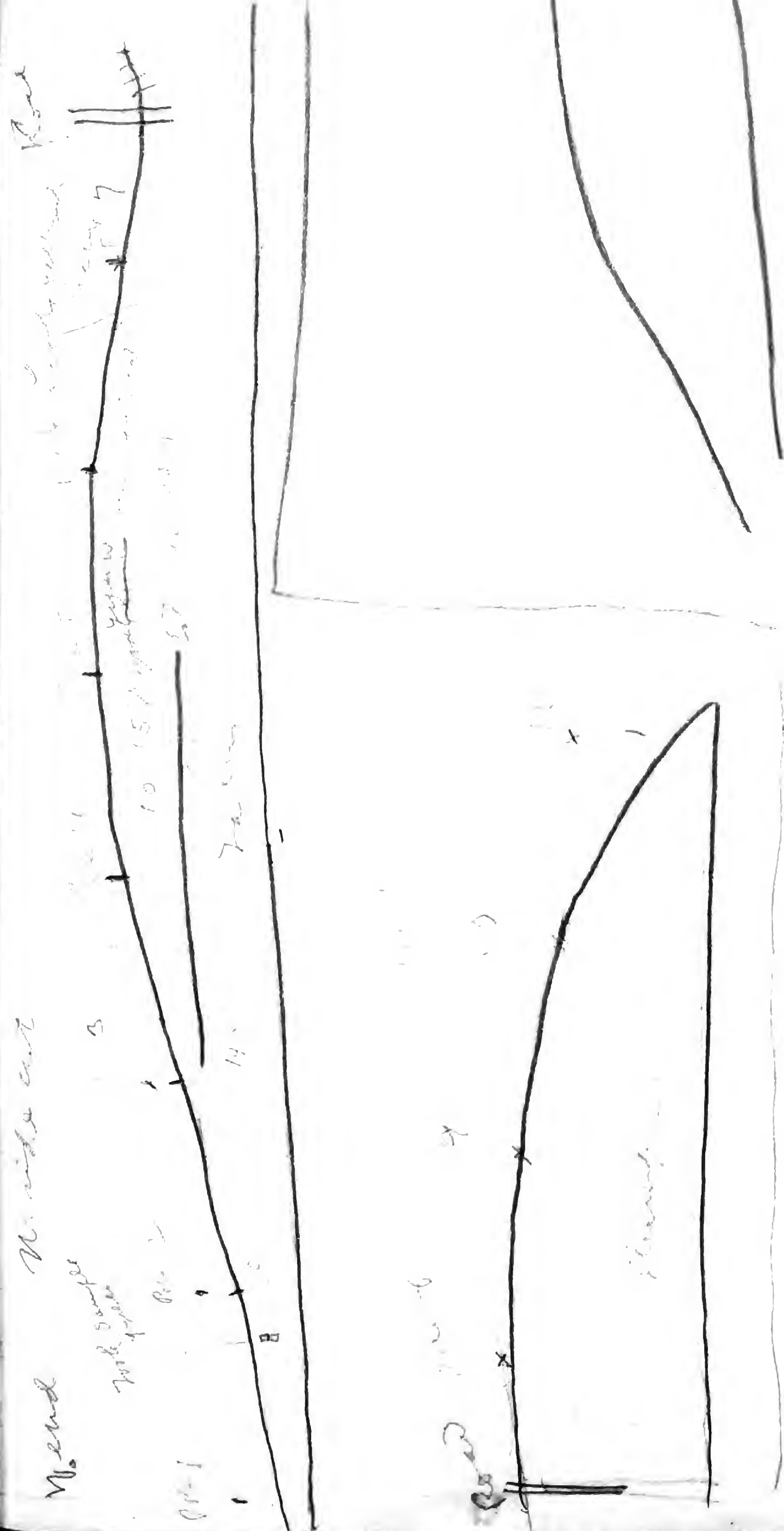
cut 83.

1258 - top of cut 11 side of house
 1215 - trunk at NW cor cut
 Place of cut under of 1216

at 20 ft E. of house took
 sample of upper calcareous
 (has many nodules) at 2 1/2 ft.
 from top, & 7 ft above back.

Opp. Pole 7, S. side. Gray
 runs up ~~from~~ above 1201 on RR to
 1226

Highest part, S. side, of pole 5 = 240
 The gray does have rather few
 iron tubes at 7 & also at 4.



1258. 13745

CR 9.0. 2225

mid attention

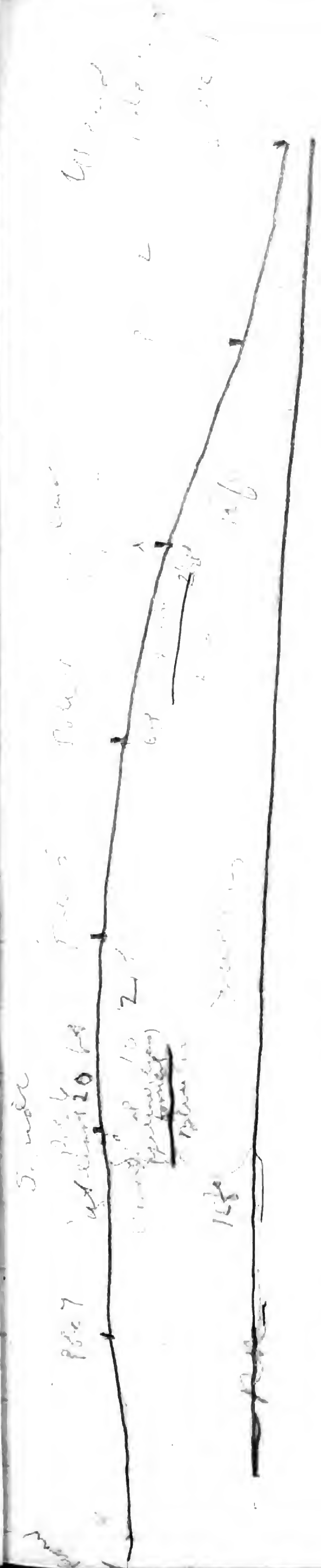
On S. side at top of
 10 ft above gray loam
 bed, with small stones &
 grasses. Soil is yellow
 jointiform even in places
 vertically on both sides.

Medium rounded stones are
 scattered throughout.

Excavated shell, about 10 ft
 took samples at 5 ft
 above base of gray & below it.

Took samples from
 the line is quite sharp,
 the oxidized
 strongly below, & sandy
 gray loam.

This is cut across long ridge,
 which doesn't seem to run out
 either way.



at 10 ft in m. side
 took samples water 2 ft from top; gray 7 ft in
 the yellow is sandy, white, 7 ft. gray
 9 ft of red in shells below,
 gray only.
 excavated in its upper 5-7 ft. yellow
 I could trace the gray over
 & then below

March 18, 1915

CR 100, 200

with attention

cut 84 in wagon road faces W &
shows gray streak in road.
Top of hill E. = 1258.

cut 85 - shows yellow loess (gray loess
at base of hill & shows loess below)

cut 86. shows gray loess in road

with nodules. (shows yellow loess below)
cut 87 shows gray & yellow
loess in road.

S.E. 1/4 N.E. 1/4 14-81-57 N. cut 7 faces N. yellow loess at top with many
small nodules.

Same - faces S. (S. cut). Shows drift capped with yellow loess

N.E. 1/4 S.E. 1/4 sec. 14. - Small hill with thin cap of loess. drift shows
on both sides.

S.E. 1/4 S.E. 1/4 14. - Drift shows well up hill. yellow loess on top.

Same - S. side. Shows yellow loess with small nodules above.

cut 100 - faces E, 6-8 ft. of yellow loess. Much gray
larger road cut. Reddish at base.

Cuts 101 & 102 show gray & yellow loess.

cut 103 is old brickyard.

cut 88 - a smaller RR cut

cut 89. a large RR cut

cut 90 - a smaller RR cut

cut 91 - an RR cut.

Cuts also on W side sec. 28 & 21-79.

one yellow loess and one gray loess.
cut 92, faces E. shows gray & yellow loess.

" 93 - " E. " " " "

" 94 - " W. " " " "

" 95 - " E. " " " "

" 96 - " W. " " " "

" 97 - " W. " " " "

" 98 & 99 - yellow at top gray below. Loess.

In evening went to station, met the
Shavers, and made check for 9.50
36 days.

Aug. 27 Fri 1913

Started J. & B.

(Stop at 9th page for notes) cuts 104-106

- On road S. & points marked

The yellow loess is of the same
many small nodules Same in road

cut in first mile.

cut 111.

SE 1/4 S.E. 1/4 15-81-37

low cut. Almost no loess.

The road is a good one. The
cut is a good one. The
cut is a good one. The
cut is a good one. The

The road is a good one. The
cut is a good one. The
cut is a good one. The
cut is a good one. The

cut 112 shows drift & loess.
cut 113 shows drift & loess.

The road is a good one. The
cut is a good one. The
cut is a good one. The
cut is a good one. The

1000 ft. 137 ft

CR 1000. 226

with attention

Cm 114

Cut 114
on E. side Mt. 1429-81-37 yellow loss
appears, with small nodules in upper part.

Case 115

Mar 2nd - 1979-81 27

there are two bands - one
made of cork, - also the

the east.

Cont 116

Cut 116
along road, on slope facing E
further up shore than 2nd,
with some small trees on ridge

On up we are now in the
intermediate stage and

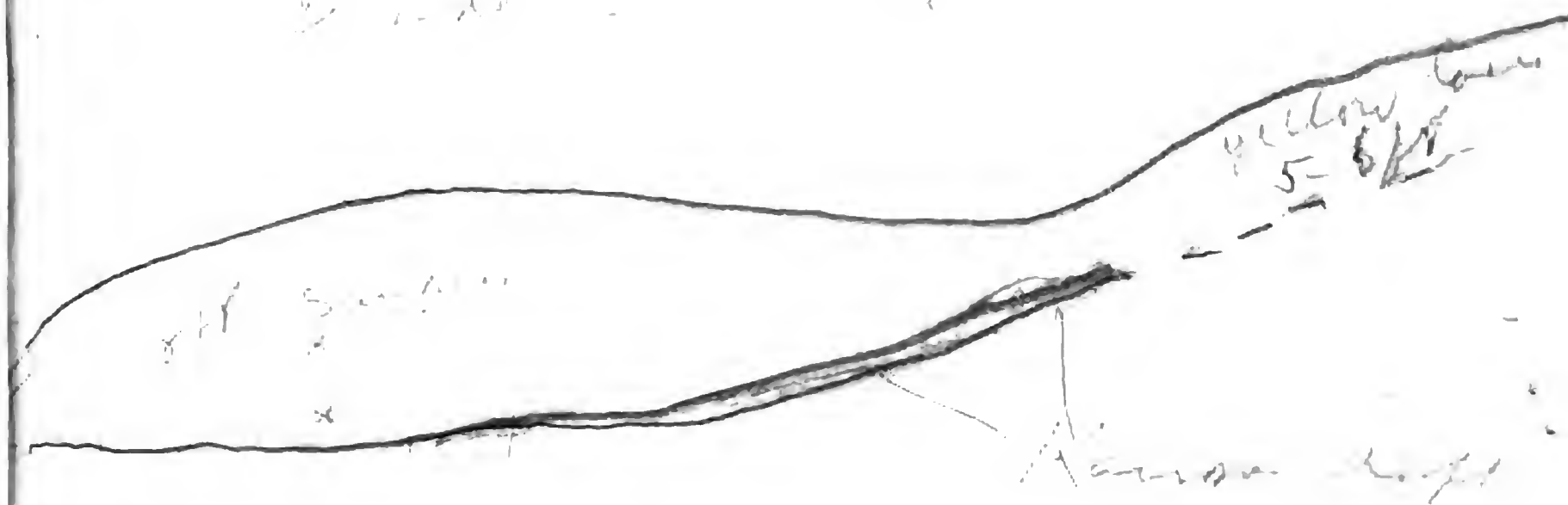
Cut 117

encl 117 the expense or bill for my H.
in Dec. 4 29-51-37-

shows deep gutter & cut near base.

A few small *Lycopodium* & *Polypodium*
are washed out at same place.

greater part of the exposure shows a yellow to 6-8 ft exposure, heavy, light brown + black shots + streaks of with gray clonings. No nodules or

[illegible]

2. Intensity, $\frac{1}{r^2}$ - gives - area, $\frac{1}{r^2}$

gray

CMA 118

Cut 118
on 4.1.1937

There is an exposure of yellow
clay - 5 ft. high, - with a
few nodules & shells of *Orthis*
virgata. See spec.

Cut 119 - at base of lay slope facing
W. drift appears near school, -
for some distance up hill.

(= cut 118).

At base, on N. side of 32-34-37
there is a bank, on N. & W. side
of road, which shows 8 ft. of yellow
loess. It is rather soft, but
of the older type with grayish
streaks and mottlings, and has
some nodules (medium or
small) (see samples), and
shells are scattered through,
especially in lower 5 ft. (see
shells and samples.)

Reading at base of this cut = 1345
at base of long slope cut = 1265
on bottom.

This shows drift distinctly at base.
The Kansan is light ^{bluish} gray
and yellow, and has
rather small boulders
and pebbles, some brown
quartzite and some black.

C. & W. RR. at base = 1249

C. & W. RR. " " = 1256.

118a also on E. side see 36
(Ar. 2 (4) 81-88 - showing drift
& loess (see p. 10))

Cut 120 - faces W. - Drift. - 70 ft. of hill yellow loess.
cuts 121 & 122 show much drift with cap of yellow loess.
For faces E. 101 faces W.
cut 123 - yellow loess. Faces S. 8-10 ft.
Drift below.
Cut 124 is along high hill. Faces N. & W. with high up. yellow loess.

We drove to highland grove
in the S. of 32-34-37
Pole top. I noted following:

Filia americana - very many on
upland.

Red Elm - very many on upland.

Bur oak - " " " "

Crotalaria - common

Prunus americana

Pragme

Chokecherry

Ribes gracile

This is a large grove, and in
a very rough territory.

Picked up a lot of snails
at a point = 1464 ft.

The top of the hill S. of this
= 1480.

The snail patch was in brush
and among trees, on W. side of
road on a rather steep slope.

Base of hill N. = 1374.

118a 374

CR 100 225

with attention

Cut 125 - a little drift at base, - 4 or 5 ft. of yellow loess.
 cut 126 - shows yellow loess.
 cut 127 - yellow loess - 4 or 5 ft. - nodules.

Went N. from 11. 1/2 miles S. of V. W.
 cut 128 On N. end of sec. 10. The
 hill is about 100 ft. high
 shows a little drift at base
 on slope above. The drift
 shows a little conglomerate sand
 & gravel. This is very poorly
 sorted. Below it is gray heavy
 drift extends down towards base.
 Stopped at 11. 1/2 miles S. of V. W.
 to see all of this very bare.

1318 - Depot C. & N. W. of Kankakee
 (C. & N. W. a little over)
 Took lunch at Brown's Restaurant
 (35 cts each) & fed horse at livery -
 25 cents.

Drove south and then west to
 opposite N. end of Bowman's
 grove.

128(a) Drift. Gray below, with iron tubes, and
 some nodules. Shows in row.
 Yellow loess on top.

cut 129 - faces west, yellow loess.

above Bowman's grove
 most of the hill

cut 130
 NW cor. of sec. 29 - 80-37.

shows a little drift at base
 must be top of yellow loess
 cut about 7-8 ft. high
 shows a little drift at base
 yellow loess on top
 gravelly loess. 5 ft. high

NW cor. of 32 - 80-37
 Dan black loess, nodules, (red drift)
 yellow loess, (high up, sandy)
 Hazel, (low down)
 Walnut, (low down) M. sp. (low down)
 Juniperus, (low down) M. sp. (low down)
 Osage, (low down) M. sp. (low down)

cut 131 - Much drift on steep slope, little yellow loess.
 cut 132 - In recess of wrecked church. Red sandy muck
 showed in fresh excavation. Sandy.

cut 133 - Faces N. On steep hill. Lower half drift.

Top - yellow loess.
 cut 134 - Faces N. Similar to 133.
 cut 135 - Two sides faces S. Almost all drift.

137 1/2
 CR 1.0
 with attention

Cut 143 - Drift; ferrite; gray; yellow loess; face S.

Cut 136 - Steep. Faces south. Lower part drift; then oxidized layers, gravelly then gray mud; then yellow loess on top.
Cut 137 - Steep. Similar to 133.
Cut 138 - Steep. Drift at base; yellow loess above. Faces N.
Cut 139 - Similar to 138. Faces S.
Cut 140 - Drift; oxidized band; yellow loess. Faces N.
Cut 141 - Drift; yellow loess; gray streak.
Cut 142 - Drift; red ferrite; yellow loess.
Cut 147.

81 57 8 20 10
A low ridge of drift at base, no doubt of it.
low ridge of drift.
cut 147.

Gray mud at base of face
some drift at base of face
rows, then covered above
for 1/2 the hill by
yellow.
at top yellow loess has
many small nodules.

(Look back of page 1)

faces N.
Cut 104 - is on high hill S. of Shavers',
and shows yellow loess with many
small nodules at base.
Cut 105 - shows drift and yellow loess faces S.
Cut 106 - is a low ridge, mostly drift
with thin cap of yellow loess.
Cut 107 faces N., & shows drift & loess.
Cut 108 - shows yellow loess with many
small nodules, and drift below.
Cut 109 - shows yellow loess with numerous nodules.
Cut 110 - yellow loess - nodules.
cut 111.

Cut 144 - A low ridge. Drift, top - yellow loess.
Cut 145 - Faces W. Drift; loess cap. Gray streak?
Cut 146 - Shows gray streak.
Between 147 & me. on E. a cut with yellow loess
& drift (see back) no drift at corner.
Cut 148 - Faces S. Drift. Thin cap of yellow loess.
Cut 149 - Faces N. Drift; ferrite; thin cap of yellow loess.
Cut 150 - Drift; yellow loess.
Cut 151 - Faces N. Drift; yellow loess.

140 141 137 145
CR 141 142 143
with attention

Aug 30, 1913 S.A.

^(cut 107)
The East hill on road 2 m. down before
of small brown stones (bricks) at
the top of the hill - new road
below, but it is a fill from the
the drift - now well up hill
yellow brown soil & stones.
Drift also found at the other
side of road S.

Cut 152.
On E. side of 35-81-37 a slope
facing S (the north one) shows drift in
road, with small cap of loam.

Cut 153
S. of creeklet, on slope facing north,
the road shows yellow loam at
base. Then drift is exposed well up.
This is capped with a rather thin
layer of yellow loam with many
nodules at top. There is a reddish
clayey layer above the drift.
Scrub oaks.

Cut 154
The 3rd m. on same sec. line is exposed
along a long slope facing S. The
greater part shows drift, well exposed

North 137 1/2

CR. 9.10 - 225

mid attention

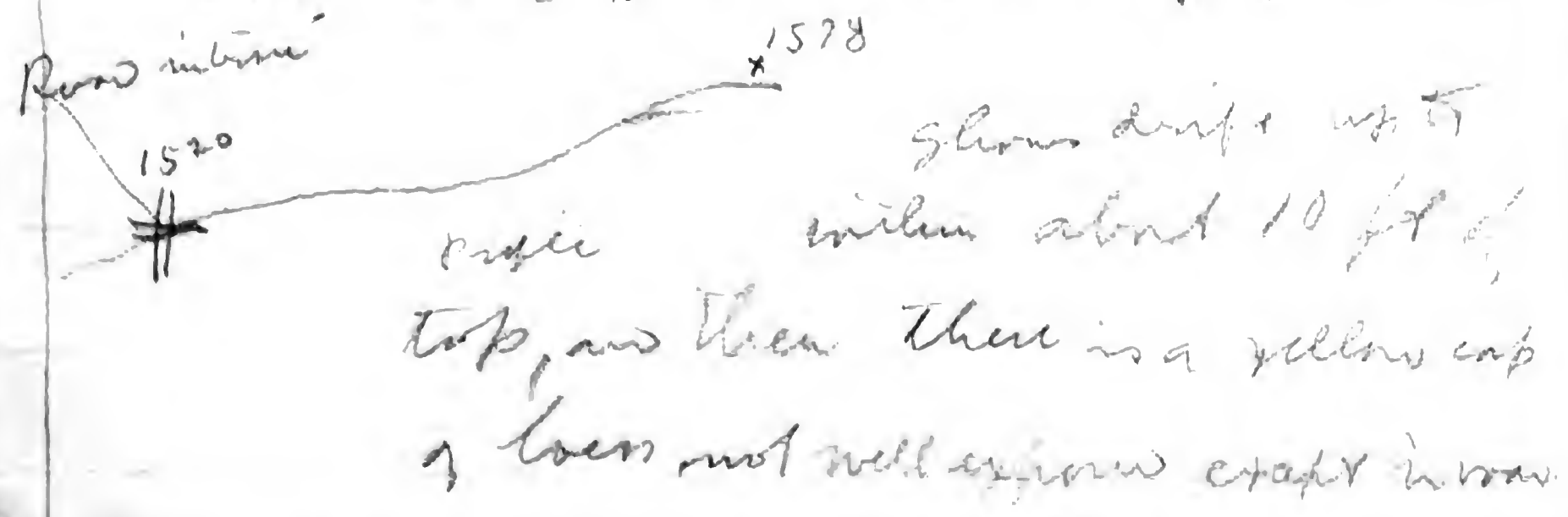
in gutter on E side. It is about 1/2 gray
 Kanran with small boulders & pebbles,
 much lime, and has a thin cap of 1/2
 2 ft a heavy, reddish joint clay
 with few pebbles, especially the
 reddish "Garnett" which I have seen
 in many places.

A thin cap of yellow loam on top.

The gray is here brown, if present.
Cut 155
 At NW, cor. 1-80-37 drift Faces N.
 appears in road. There now is washed out
 at base of slope north (in next sec.) V
 a bank on E side - (see 1) shows a
 red sandy layer in drift. It goes
 up E & S. Loam appears on hills.

Reading at intersection - 1520

The hill south runs up to 1578.



Cut 156.
 The slope S shows yellow loam with
 many nodules; garnett is in drift
 below it, goes only a few ft. at
 bottom of valley measures 150 ft.

Cut 157
 S of creek a thick bed shows
 drift for 50 ft, then upper 30
 ft. shows loam.

The drift evidently came from hill
 as shown. Nodules gone, which
 here consists mostly of the same joint
 clay (re-sorted), with some
 red sand from lower part of drift.

The red layer is a foot or two thick
 & in it appears gray loam with
 iron tubes (see sample). This
 runs up hill for only 10 or 15 ft
 & then comes yellow loam with fossils
 & many small nodules.

See samples of drift & yellow loam

The fossils were mostly in lower
 part of the yellow loam, - a lower
 half of slope. The nodules near

Hill 137 ft. CR. 1.0. 137 ft. mid attention

I could not get a sharp line
exposed to show contact of blue
& gray loess, but a transition
upward seems to be made abrupt.
This exposure is just the same.

3 = map In N4SE 42-80-37

$$u = 1, 2, 3, \dots$$

Cut 158 | 7 feet 5.2' + shows drift & loess.

In both cases few birds,

cont 159 - Faces 6, drift at base, yellow loam.

" 160 " W " " low yellow green above 5-6 ft., exposed in cut.

" 161 - " E. Duff at very low. Yellow
small inside. Yellow Green, cut 4-5 ft.

" 163 - Facies W. Drift at base. Yellow loess and loess.

" 164 - Fairly N. Drift. Yellow loam.

"165-8 up to 1000"

cont 167.
near S W cor. West 100 ft. 1-80-37

Bottom - under 24 - 1578 - 24/1

hier S. = 1638 - 1639

cut 168 - steep hill, facing N. Drift, loam.

Cut 168 - Slap well, fair S. drift
Cut 169 - Fair S. drift + yellow loam

cut 169 - 7 feet 3. Drift & yellow loess.
cut 170 - " n. very steep. Drift & yellow loess.

cut 170 - " N. very steep. Out
cut 171 - faces E. yellow loam

Ant 171 - faces E. yellow legs
Glopper at 7:00 am at Y Hall June 15

horse - 20 clo

- C. 1 - Very nodular loess (above), small nodules, yellow.

Cut 1 (Andulpu)

At edge of terrace E. of river

at 8/50-56 there is a copy

That shows 8 ft. yellow loam

This is rather soft, but not O.K.

Note as for the same as the others

Aug. 3 In SW SW, 79-80-26 drift runs

well up; then a narrow grey streak

147. 374

CR, 9.1.1, 225

with attention.

and then yellow loess

cut 4 At slope facing E., in SW 1/4 Sec. 7-80-26

shows drift & base then
gray, fine, brown yellow loess.

A number of little hills W.
of this point show a low rise only

So far in elevation W. The
country is more gently rolling

There are no large hills visible
& the river bluff above usually
are low & gentle.

cut 5 In SE 1/4 of sec 7-80-26 there
is a sand pit half way up a
gentle slope.

It shows about 7 ft (all that is
exposed) of dirty sand, more or less
consolidated, cross-bedded, with
larger pebbles & small boulders
in lines. Also a few gray
hard clay balls with grains
of sand in them.

This is a continuation of the same
& continues to new layers of
seen in the same manner.

The middle sand layer is not
a part of the same drift
topography.

cut 6 A cellar excavation at about
same level on N. side of
road shows that a bed of
fine, coarse sand was found
above on this slope is
yellow loess.

Appears as if the fine sand
ran into loess above. Could not
see if correct.

cut 7
cut 8 At NW cor of sec. 10-80-26
the drift is plain up to near
~~at top~~ ^{top} of low knoll, where a
red clayey, sandy layer appears
on top (same as sand pit?)
and then a very thin cap of
yellow loess. Faces W.

March 13 1915

CR 9.1.1. 225

with attention

Cut 9 The slope of some ridge facing
E. shows drift of some loess,
all along from corner N to
turn in road (N) the
drift is on E. side.

c9/10 The rather long hill facing W
SE 1/4 10-80-36, with
an upper nodular ferr. (clayey)
a little more than half way up hill,
yes, nearly to top.
Then a layer of gray loess,
resting on nodules "ferretts".

This is not very clear excepting
at line of contact with ferretts.
On top of hill (about 1/2 way
on upper half) is yellow loess.

Top of hill E. = 1690!

A few small scrub oaks appear
just above bank of front farm yellow
loess on top of ridge.

The layer that appears something
like blue loess is chocolate below,
& runs quite a ways up hill. It

appears just above some drift on the hill.
The yellow loess is found on
very top of hill, being only about 5
ft. thick. It is a little nodular.
At time of leaving 1695 was
reading on top of hill - was

Cut 11 On E. slope of some ridge
drift appears below.

Cut 12 In S.E. 1/4 11-80-36 a hill
(top = 1704), rather long,
shows red clayey ferretts &
above is yellow loess with some
nodules. Above no ferretts.

Bottom at sec. ^{S.E. cor. 11.} _{cor. W.} = 1659

Cut 13 In S.E. 1/4 12-80-36 a
hill reading 1757. shows on face
to W. Kansan drift with nodules (hard)
above, a distinct blue loess with
iron tubes, & this passes by
oxidizing band into yellow loess.

March 13745

CR 9.1.1. 225

with attention.

with many small pebbles at
top & few larger ones below &
gravelly sand. The
yellow loam is more of very
fine sand.

cut 14 In Le Roy Twp. N. side of sec 18. an
center of 18 40 zone is a shelf
or bench of Kansan, reading 1735.
The hill then rises to 1774 &
shows yellow loam on top. It is
evident that drift was even
above 1735 ft. so that loam
must be thin.

This is a great drift running
somewhat N.E. & S.W., which is
evidently the divide.

cut 15 Near Rt. cor. N.E. SE cor. 12-80-36
The slope facing S. shows much drift, &
a thin cap of yellow loam.

cut 16 On the N. slope of same ridge
yellow loam appears at top, then

strongly drifts and the zone
at SE. cor. sec. 1-80-36 1770

There is a divide which here

cut 17 ^{Drift & thin loam zone W.}
cut 18 ^{Drift} faces SE cor. sec. 2-80-36
a well 40 ft deep -

near Schellville, Iowa.

struck drifts (all of them) only,
then to 60 & 6 or 8 ft

On point of ridge SE. corner
well 39 ft deep & stands
almost level. Here they

trunk a sandy soil
On these ground & size, distance
wells are common

As a rule they bore here 40
to 70 ft. and find plenty of
water. A little sand is
seen, but not all.

The son J.W. Ochtree, does
well-digging. Only two wells,
one 60 & other 70 ft, ^{all} over 50 ft.

March 13 1895

CR. 1.1.1. 1.2.2.5

with attention

On lower slopes, 25 to 30 ft
The lower part of the hill is
to the top.

cut 19 Near S.W. cor. SW. SE 2-8036
a well exposed hillside drift
well exposed in a line of green
about 10 ft, with nodules,
a thin cap of yellow clay.

cut 20 N. of SW. cor. of sec. 2-80-36
a rather steep ridge extends
to west. Its S. side shows
only yellow loess. Top = 1738

The N. slope is quite steep.
at very top a fine yellow
sand (some of it with small
nodules) caps the ridge.

About 10 ft from top yellow
loess is exposed at a
12-14 ft a very distinct layer
of gray loess with brown.

From base of hill, part on
top of yellow loess 10 ft high
Below gray loess is a layer of
reddish loess, 1/2 ft thick, and
below that.

1659 = foot of hill N.

From top of hill was fine sand
in water. From Kansan?

cut 21 - Wide No. 4-35-81-36. Kansan Gen.

At Shaver's, in section
cutting - 1720 at 9 ft.

1659 = foot of hill N.

1720 at 9 ft.

with attention

cut 174 - Drift below (partly covered by loess fill); blue loess with tubes; yellow loess.
 cut 175 - faces N. yellow loess.
 cut 176 - Loess sand 4' way up hill. Then yellow loess. In some not clear, in valley S. there is loess sand.

Aug. 31/1913 Sun

Reading in Shaver's - taken 1638

cut 172

A hill on sec. 13, N. slope facing E. drift - taken 1660 & then yellow loess to 1674.

On hill & Helianthus grounds is growing near top of hill on main bank.

Slope S. 1/4 Sec. 13

cut 173 SW 1/4 2E. 11N. 12-31-37 - a slope facing N. shows yellow loess above drift below

Drift below

cut 22 (and) is a long ridge which runs Westward beyond the N. 1/2 sec. line & then crosses into section 14.

Set 22 on west slope

35 yds E. of section there is a bench and here, in section

Looking S 95 yds

1641

N. side, gray loess appears & extends some 95 yds. The gutter shows 1-3 feet of it & shows that, apparently a water slope.

1638
1660
1674
1676

It was very warm & sunny. Tubes & some irregularly shaped (see spec.) in the very top of slope - and a few scattered in the loess.

Upward on hill a very distinct ex. drift - taken 46 - under surface - 1' from top of hill. Over the hill you can see the river.

Looking for some distance down slope, the drift is not very sharp.

No drift at present.

I would see evidence for an irregularity in yellow

On S. side towards the ponds stream & irregularities in the loess are very prominent & distinct, in blue loess.

(and)

cut 22 A drift ridge - rather low.

Aug. 31/1913

CR 1000, 225

need attention

- cut 24 (and) yellow loess; gray streak; little drift at base.
 cut 25 (a) Drift at base; yellow loess. Faces W.
 cut 26 (a) Faces W. Drift; loess cap.
 cut 27 (a) Similar
 cut 28 (a) a long hill with yellow loess all the way.
 cut 29 (and) a long hill with yellow loess all the way.

on N. side, facing ^{to} ~~down~~ ^{up} a long
 cut - 4 - 5 ft. which shows a
 N. side.



a = yellow loess 3 ft, with many small
 b = gray loess. 3 in to ^{modules} more up the hill
 from today

c = a clayey ferricrete 6 in 1 ft.

d = reddish drift, bluish clay
 lower.

Photograph this in
 afternoon or
 morning.

The gray runs out below & yellow
 loess thins.

Kitchen 1672 - at 4:30 PM

cut 30 (and) Faces S. Gray loess with tubes,
 and many nodules. Yellow loess
 follows hill.
 (and)

cut 31 - Drift well up. Gray loess (thin);
 yellow loess.

cut 32 (and) yellow loess; gray streak.

cut 33 (and) Drift; yellow loess.

cut 34 (and) Drift up to 16/10. Red
 clayey ferricrete very distinct; then
 gray streak; upper part yellow loess,
 on slope with many nodules. Top = 1645.

1672, 1375

CR 100, 225

with attention

Cut 177

On slope facing E. along Long Branch,
drift shows well up. Yellow loess above

Sept 1 1912

Cut 178 faces N. It shows both gray &
yellow loess.

Cut 179. Is in row on low ridge & shows
fracture only drift.

Sept 1 - 1912 - Mon.

Shasen's Lake 1554

Trip to Englewood

Boxna - 1438 - C. W. W. depot

1440 - C. W. W. "

Cut 180

7 feet E. of top of hill
The loess on hill of W. corner
in cut 5-6 ft. all along.
Between sec. 2 & 11 seems to be
quite thick. - 4 to 6 feet in
exposed, but this is

all the way down

Top of road = 1539
Hill rises 20 ft.

Cut 181

7 feet W. of top of hill
The part facing W. is similar

Cut 182

Shows yellow loess on slope facing N. Here comes 20 ft. all way down.

Cut 183

In woods, a very good one on W.
side of sec. 3. The yellow loess is
indeed thick on all the hills & shows
in sections. Faces S.
yellow loess only.

Cut 184

E. of middle of line between 4 & 9,

Cut 185

81-38, a brown sand shows drift.
Shows yellow loess.

Cut 186

still the same.
Faces W. & shows yellow loess.

Top of hill at 1570 has some
oaks & another patch west

The slope E. shows heavy yellow
loess all way down. (= 185).

Sept 1 1912

CR 100 1225

with attention.

Cut 186.

On W face of same ridge
drift appears to have (-185a)

Next ridge, slope facing E.,
a short distance shows drift
well up a slope. It is

not of yellow color, but less than

before.

This is only weathered, it is yellow, a gray streak below.
Gray loess well exposed well
on slope, about 3 ft above road
side. That region.

This cut runs 7-8 ft.

(On S side slope, the drift

is only a narrow through lower
part of yellow, not many.

Shells are mostly rounded
(within loess), but many
smaller ones appear near top
of ridge. (The yellow loess & nodules
& shells)

Loose sand appears in low ground near Mt. cor. 7-8/-37.

Cut 187 - Shows yellow loess

Cut 188 - Shows drift & much yellow loess.

Cut 189 - A drift ridge

Cut 190 Drift; ferrugineous (clayey); gray loess; yellow

loess well down. Loess higher to N.

Cut 191 - Drift high up, & yellow loess.

Cut 192 - Drift high up, & yellow loess.

A small cut, shows drift (clay).

Cut 193



Cut 193 (a) Face W. shows gray & reddish muck.

March 13 1915

CR 9.00, 1.22.5

with attention.

cut 194 - Drift. Red mud! Faces E.

cut 195 - Faces W. Drift well up. On top material is reddish & crumbly.

cut 196

W of NW cor 22-81-38 - 2

steep hill runs up - faces E.

Its lower half is drift, then a
ferretto bed, then a narrow,
& above, yellow

This is on N. line NW. cor. 22-81-38.

The ferretto bed is very dist. of -
pebbly. The gray streak is
narrow & indistinct.

The material above is yellow
loam & its lower part has fossils
& scattered nodules (see center
of loam & fossils.)

See 2 pp.
in advance

cut 204

Near center of N. line of NW, NE

21-81-38 a hole facing E.

shows a good exposure of gray
loam - here heavy & crumbly, but
with fossils scattered through, - some
nodules & tubes & streaks.

See loam & fossils.

Among scrub oaks on N. line NW.

21-81-38, found a good many *Bifidaria* *holysani*

Just W of this a small 1 ft. hole
W. with yellow cut above 5-7 ft
& gray, with tubes, below

Sta. at Defiance = 1464

Grand, big cut = 1500
= 1510

Went to big cut (2nd end) on
RR. Collected fossils in gray loam.

The fossils in gray were collected
chiefly between 200 yds & 275
yds from N. (E) end of cut

North 137 1/2

CR 100 132.5

with attention.

The yellow loess has dark brown spots & streaks, & some gray streaks.

Transition to gray at base is not so sharp. Though quite abrupt, but at S. end it is very sharp.

The yellow loess has fewer fossils, & the *S. arana* predominates. The former is very rare in gray loess.

Cut 1 is evidently same as upper, yellow, loess in cut 2.

Took photos 5, 6, 15 & 16 with markers & 33 & 34 showing cut looking N.

all samples are from near B.

at 218

The 3rd cut follows 2nd closely.

It is about where 1st

I could see only yellow loess. Badly disturbed here.

at 219

The " " = 15 ft long. The 3rd cut follows 2nd closely. It is about where 1st on W side of road, near. Only yellow loess seen about 5 ft, with large nodules & fossils scattered through, - not abundant. See index, on W side = 12 ft deep. On E side = 6 ft. Many nodules, few fossils.

at 220

Cut 5 is long, on curve, & much exposed.

at 218 1375

at 219 1325

with attention.

5- the curve
The curve

Chowdhury

(1) Δ is a triangle

10

old road
down

64 (1) *Heb. l.*

Alantia virginica

100 years
thinking a
very
interesting
subject

567

at S. end on the north side of the road, in a low, open, grassy place. The stone is a large, irregular, reddish-brown, and is a good specimen of the stone. It is in the lower part of the S. end of the road, in a low, open, grassy place.

W. J. G. G. G.

1430

1459

✓ 1403

Everywhere - in
city or town -

character (age, complexion, distinct coloring)

The gray & yellow ^{birds} seen in the same place.
The yellow, the dark brown, & some gray
streaks of a few around the birds. The gray
has not today & many rounded a single bird,
quite large.

Main part of cut no. 100
underneath R.P. co.
lies along Trench,

The big part of each shows
much of the clay ferrugineous -
seems to be almost to find (?).

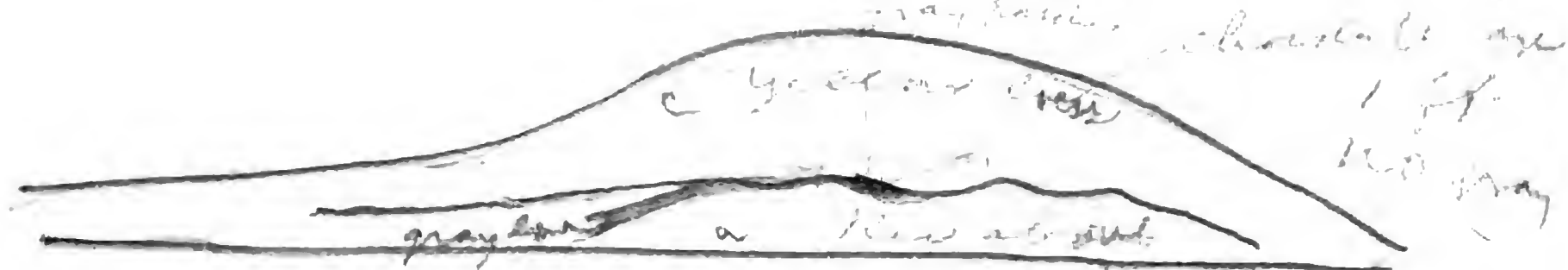
1452 1375

CR, 11B 1325

need attention.

221

Cut 6 - is about 300 yds long. At N end of W. side yellow loam rests on chocolate layer. Same as E. side. N side cut 6.



at S end on E side fossiliferous gray loam with tubes & small nodules in exposure about 6 ft & above it is 8-10 ft of yellow loam. Line sharp. No fossils in yellow part here.

N side a heavy mud gravelly. Reddish loam. 7 ft thick.

Base - 1403

Top of Red band (chocolate) 1412

Top of gray loam

Top of bank - 1439

(The cut on S. side looks similar)

The gray loam runs out - very distinct.

The chocolate layer follows surface of drift.

The gray appears in patches on N side - not thick.

Yellow loam - 27 ft thick. Fine round nodules, some (few) scattered, chiefly below.

About 3 mounds of gravelly cut

appear in sec. 33 towards

Earling, but they will be better

studied when we can make the same. Be true of cuts 5 & 6.

On this trip found on the ground

Prionocypris

Salix

Scirpus

Helianthus

Echinochloa

Sagittaria

Asclepias

Helianthus

On return

1380 = base of cut 2

1375

1325

with attention.

14052 1375
C. M. W. 1355

CR. 1. 325

and attention.

Sent breakfast today. Please in getting another
 will go to me at 80 Science Hall,
 21 Cambridge St.
 They sent a heavy cardboard box, will hold not
 to heavy things on it.

Don't forget today. Plants in Cotton need
attention. Another ^{addendum to me,} ~~will go to me at~~ ~~afternoon~~
~~Saturday~~ ~~Monday~~ tomorrow. ~~Will go to me at~~ ~~afternoon~~
~~at noon~~ ~~then~~ ~~at noon~~ ~~at noon~~ ~~at noon~~ ~~at noon~~
only. Glad a heavy basket home. Tell
people not to buy express clamps on it.

Roadsides
R.R.
Gardens.

Corn fields

Wheat fields

Pastures

Lawns.

• •

Office of hotel 1296

CR 9 + P. 1235

On return 1283

On June 1st 1912

<i>Borghastium nudum</i>	<i>Impatiens canadensis</i>
<i>Andropogon furcatus</i>	<i>Asclepias verticillata</i>
<i>Euphorbia corollata</i>	" <i>spicata</i>
<i>Rosa</i>	<i>Lactuca scariola</i>
<i>Alnus incana</i>	<i>Scrophularia</i>
<i>Equisetum arvense</i>	<i>Grindelia robusta</i>
<i>Euphorbia prostrata</i>	<i>Conium maculatum</i>
<i>Desmodium illinoense</i>	<i>Lactuca canadensis</i>
<i>Dysanthus californicus</i>	<i>Eriogonum fasciculatum</i>
<i>Kuhnia eupatorioides</i>	<i>Lactuca canadensis</i>
<i>Aster laevis</i>	<i>Aporosa canadensis</i>
<i>Thymus canadensis</i>	<i>Lactuca pinnatifida</i>
<i>Achillea millefolium</i>	<i>Antennaria plantaginifolia</i>
<i>Hordeum jubatum</i>	" <i>trifidum</i>
<i>Asclepias striata</i>	<i>Asclepias</i>
<i>Helianthus tuberosus</i>	<i>Polygonum convolvulus</i>

Sep. 3, Wed. 1912

Sep. 4, 1913 Zhus-

Drive to Redfield zone

Along road notice weeds:

criticism

Polymerization

Setaria viridis

20 - 1000 - 1000

1. *Thema*

ambigua trifida

Larix laricina

artificial

Panicum capillare

Melinda Allen

Erigeron canadensis

Polygram / Herwig

Convolvulus sepium

amantia retroflexa

Arithmetische Geometrie

Echinops crassifolius

Cassia chamaecrista

Amantia blanda

Asclepias syriaca

Lactuca scariola

Bei der Summe

Pagnum (in the cage)

Bottom land for timber

Helena, 10. 12. 1914

Vernonia fasciculata

Polygonum. (same as the)

Rumex crispus

2000

Bidens chrysanthemifolia

anborn anfangen

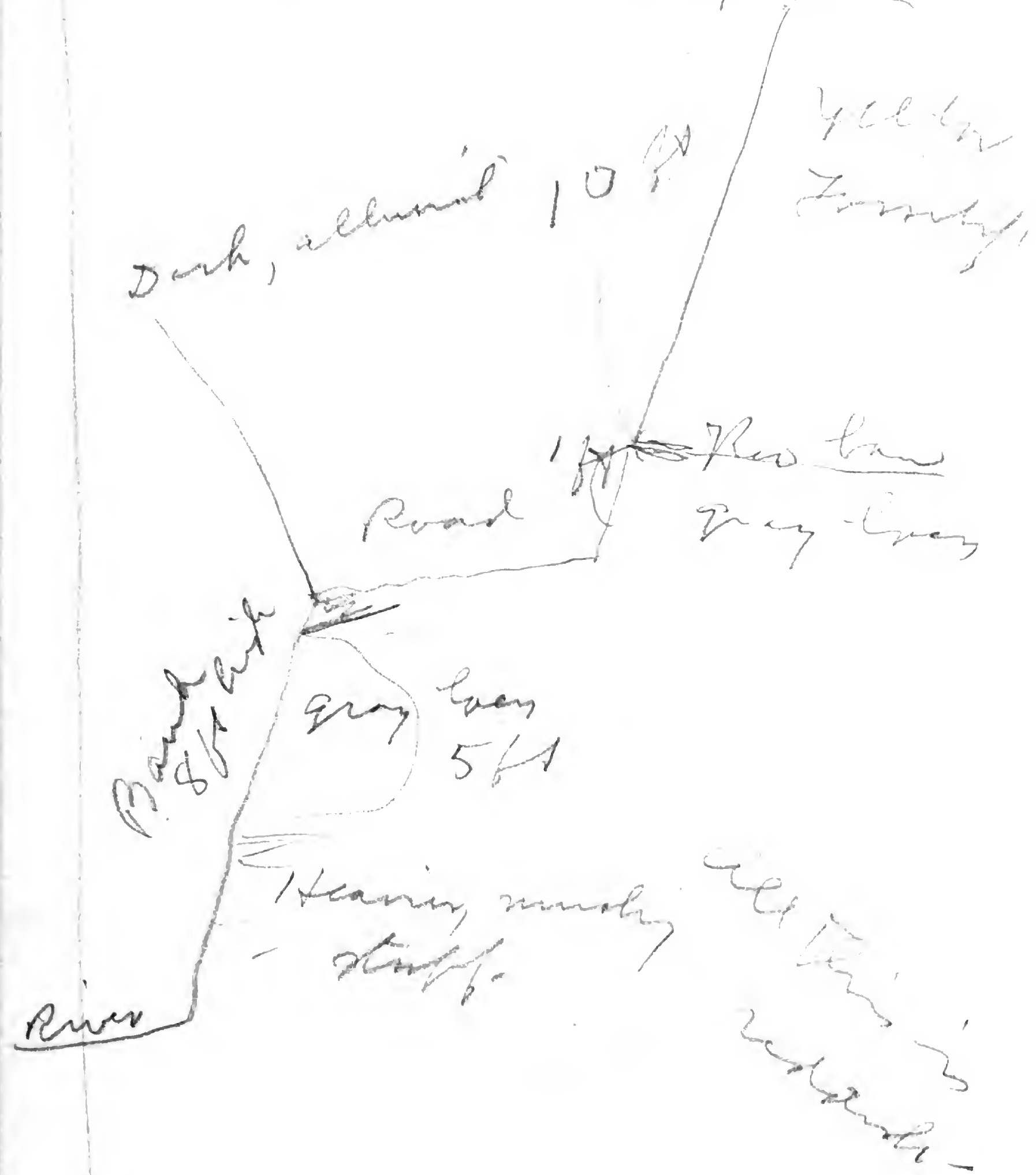
11. White

2. Calculation of the

Boltonia caribaea

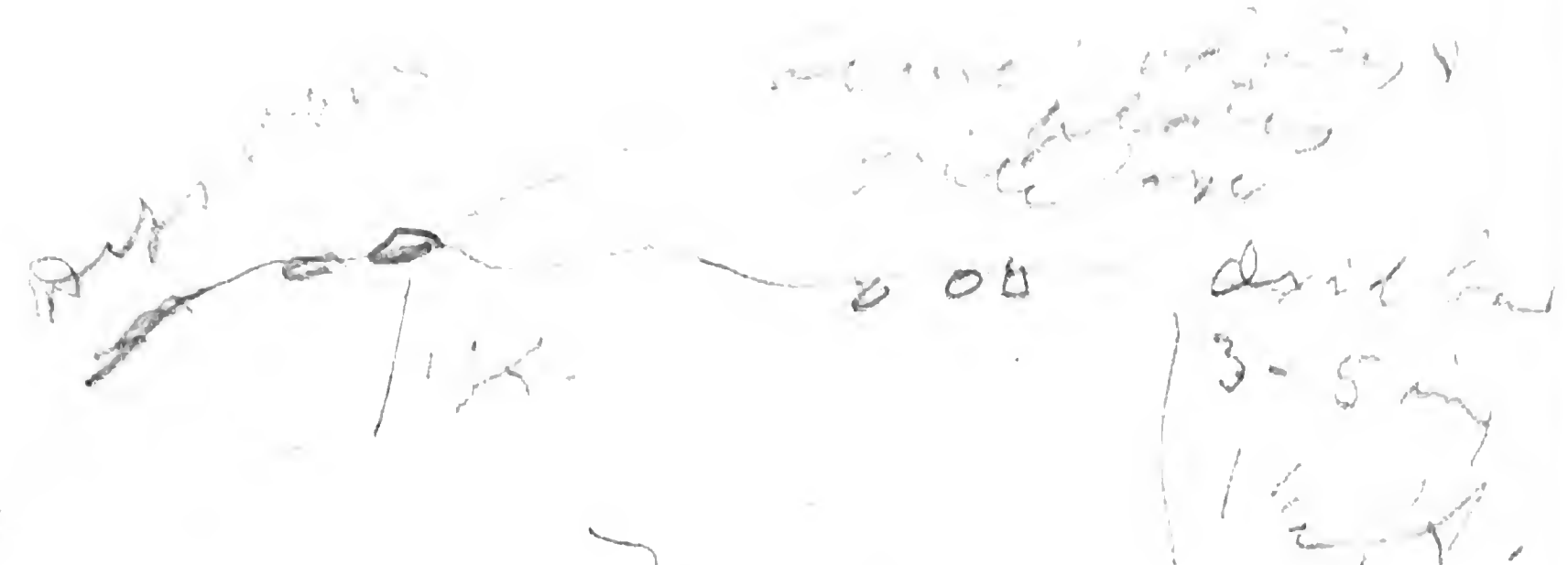
1/2 den Gewinde (2 - 1000)

Went to cut 3, Redbird
cut. Looking S.



Exp 3

Yellow loam



Zach

15 & 16 Near photo

23 & 24 Further

Took logs, & acorns & etc. for
bur oak on bottom land
in Redfield, some.
Tree 14 in diam.

In brush scrub forest 1/2
mi west of Redford?

Bur oak & Hazel dominants.
Red elm, few & rather small
Am elm, few
Large gray Cornus
Vitis vulpina
Much blue grass, - other
small plants few, ^{all} ~~mostly~~
grain. Pasture.

Found *Urtica* common most
common, chiefly on lower slopes
Also two *Zon. rubra*,
above I found a few
Urtica, a *Helicodonta* &
Pipidaria holzingeri.

Took two lichen which
appear to be common on
all the scrub oak patches.

In stream above 500

C. 94
RR 1/3

Row 1/45
Cut 222
91c - 30 yds. long, 10 ft. deep
Cut 223
91c - 15 yds. long, 10 ft. deep

167 yds. long in 50 yds. from stream
This is a very good soil - dark
black, rich, heavy, no
fossils - 100 yds. long, 10 ft. deep

Took sample 7 ft. from top
of dark soil - 10 ft. from top, 10 ft. deep
Creek valley comes between 11 & 12
Cut 224
91a - Cut 155 yds. long - about 10 ft
deep - Fossils, gray, 5 ft. deep
non 91a

5 ft. 7 ft. 10 ft.
Typical gray soil with brown
a few nodules & a few fossils.
Shows sharp oxidation line about
1-2 in wide & this is about 3 ft
above RR.

Took samples of yellow & gray soil
two fossils & nodules in yellow
soil band again

Toward W. the gray
rises a little & the rusty
band is faint. But yellow
above some dark brown streak
& gray some nodules & a
few nodules.

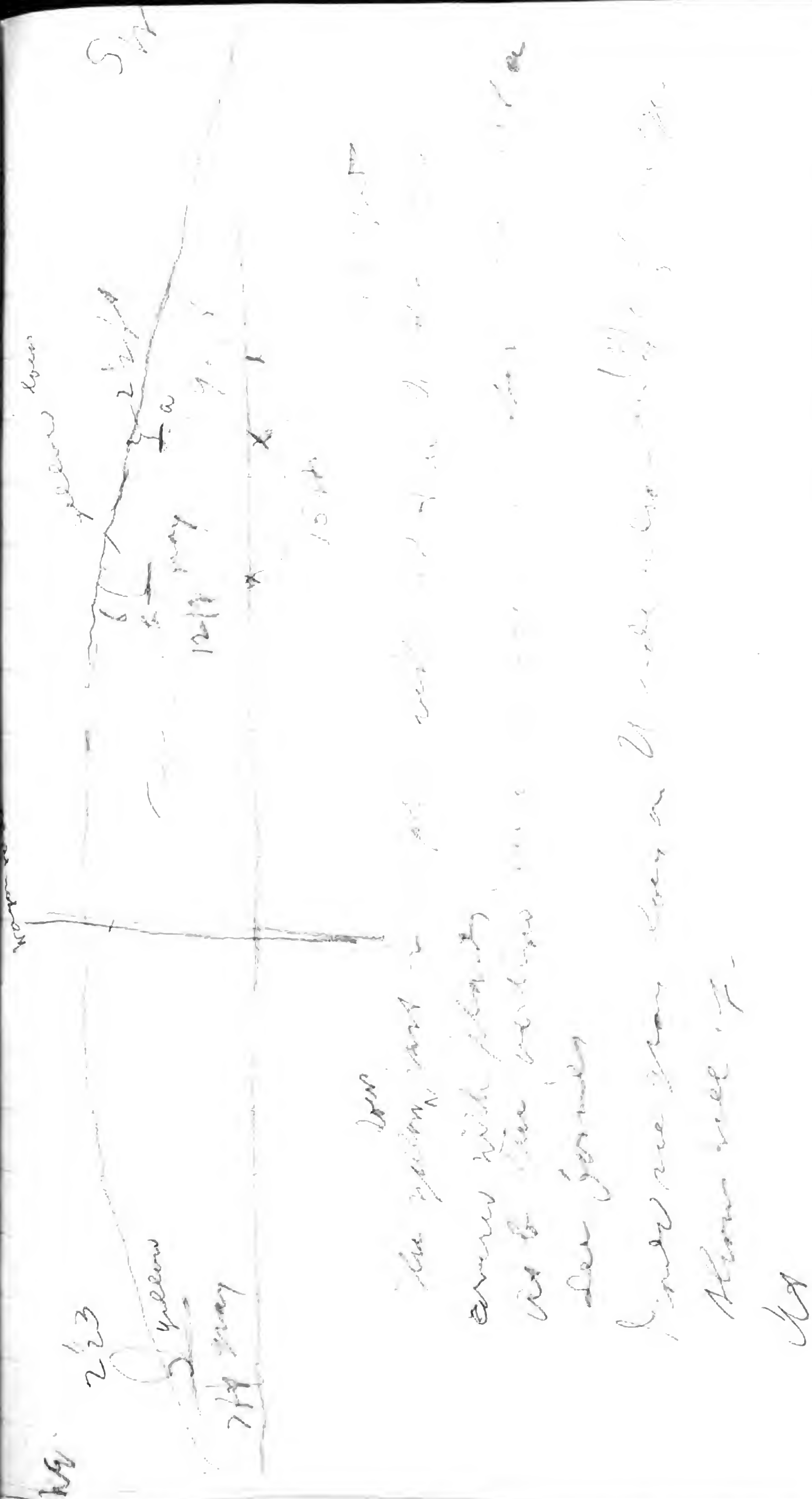
Cut 91- 2p 1452
RR 1435
17

3 pole length = 150; 21 St. of
road, & 3 poles N. of road.

The S. 2 mile of cut in bottom
in all these sections.

At S. 1/2 mile shows gray layer
up to 8 or 9 ft, then a
distinct rusty band, 3-5 in. &
then gray layer with few
tubes, few nodules & few
fossils - 6 ft or more. Rest
covered by talus.

The yellow layer is probably
nowhere over 8 ft deep, but
dumping & overgrowing make it
hard to see.



Cut 90 is a sort of double cut, 5. inch 5. 40 way 6 ft deep.

Gray leaves as a rule (about
3-4 ft) overhanging the ground
(or yellow) & green stems, sometimes
& lobes appear in the wet
part. Sometimes the same in 5 ft
wide 150 yds +
the wet water at 200 yds
yellow
gray

yellow in main part, probably
not over 7 ft. - Then goes
up to 10 or 12 ft, but base
covered with talus, so far
from away of both parts
Nodules fewer in main part

Cut 89 extends 6 pole lengths
(= 360 yds) W. of road, ∇ 3
poles E. (= 150 yds)

It is rough, and out on back,
✓ badly shrunken.

[illegible]

at 2nd hole on W. side found
in 20 yds 3 ft of (fossils)
11 ft of (fossils)

Cut 225

at 3¹/₂ to 6 p.m. a
cut 10 ft on N side.

Probably was 20 yd.

Was down lower than present
grade.

11 poles from this cut to
cut 81. ~~30-40~~ 1/2 deep.

Gray sand away up.

Many nodules. Some tubes

Saw no shells - too dark.

A heavy bluish sandy
loamy stuff at beach

level - May 10th.

It is 450 yds long.

- This is a fine large cut
and should be studied ^{more fully}, It
was too dark for this

along road to cut 53.
at cut 85 I found
gray loam, with thin
tubes, and a few
fossils, mostly true
ovules.

Sep. 5, 1913 - Fri.
Went out to look for
weeds.

Reading at hotel = 1300

Weeds along streets of Harlem:

Zinnia	Erigeron canadensis
Polygonum anisatum	Polygonum pennsylvanicum
Panicum capillare	Rumex crispus
Setaria glauca	Platycodon grandiflorus
Amaranthus retrofractus	Melilotus alba
" retrofractus	Setaria viridis
Chenopodium album	Lepidium virginicum
Ambrosia artemisiifolia	Burdock
Belamcanda chinensis	Hordeum jubatum
Lactuca scariola	Setaria verticillata
" "	Medicago sativa
Rumex (3) see spec.	Polygonum pennsylvanicum
" crispus	Eragrostis major
Digitalis purpurea	Ligustrum officinale
Ambrosia trifida	Asclepias syriaca
Convolvulus sepium	Urtica dioica
Portulaca oleraceae	(my first spec.)
Polygonum convolvulus	Euphorbia corollata

Went to a lot of
weeds in the
Harlem area.

Along R.R. from:

Ambrosia trifida	Brassica nigra
Melilotus alba	Amaranthus retrofractus
Urtica dioica	Phytolacca americana
Zinnia	Convolvulus sepium
Polygonum pennsylvanicum	Hordeum jubatum
Convolvulus sepium	Cirsium discolor
Euphorbia corollata	Abutilon theophrasti
Amaranthus retrofractus	Pastinaca sativa
Convolvulus sepium	Hordeum jubatum
" "	
Setaria viridis	
Digitalis purpurea	
(my first spec.)	
Echinoschola virginica	
Asclepias syriaca	
Erigeron canadensis	
Polygonum pennsylvanicum	
Polygonum convolvulus	
Panicum capillare	
Chenopodium album	
Polygonum (common name)	
Salsola hali var	
Polygonum convolvulus	
Rumex (spec.)	

CR I & P. depot = 1244

C. E. W. = 1253

(Hines) 1284

Hotel on corner 1282

Not satisfactory for situation,
Catalpa

Box also.

green ash (small quantity)

Box maple

Ash (look thin)

Hard maple (green both sides)

Scotch Pine

American Pine

Larch

Cedar

White Birch

Mountain Spruce

Mr. Wm. J. Jorgensen - manager

Mr. Baughn's business

yellow - runs out N,

~~but E. side of road~~

as much as

gray clay.

Top clay all told 30 ft.

Some hard brown
stuff (charcoal layer)

under cover.

Blue joint clay
(in places red)

Then sand, with water

Dep. 6, 1913 - 627.

[illegible]

Carnation
 Thymus
 Holly

1. ~~Very~~ ~~much~~ ~~more~~ ~~careful~~
~~Disposition~~ ~~in~~ ~~the~~
~~the~~

1912

Ag. in. perched.

With the same

Cont. manual

Children of the longest war.

1911-12-10

Receivables

Adrian 2-10-20

17 ~~Verfahren~~ Verfahren

Verden garden

Adrian Chapman, Curator

Quercus laevis

Phragmites communis

Salix longifolia

Carnation
 Thymus
 Holly

Woods

~~Polyporus~~
~~Hydnum~~
~~Peziza~~
~~Camarosporium~~
~~P. utago~~
~~Polyporus~~
~~Cantharellus~~
~~Hydnum~~

~~Polyporus~~
~~Hydnum~~
~~Peziza~~
~~Camarosporium~~
~~P. utago~~
~~Polyporus~~
~~Cantharellus~~
~~Hydnum~~

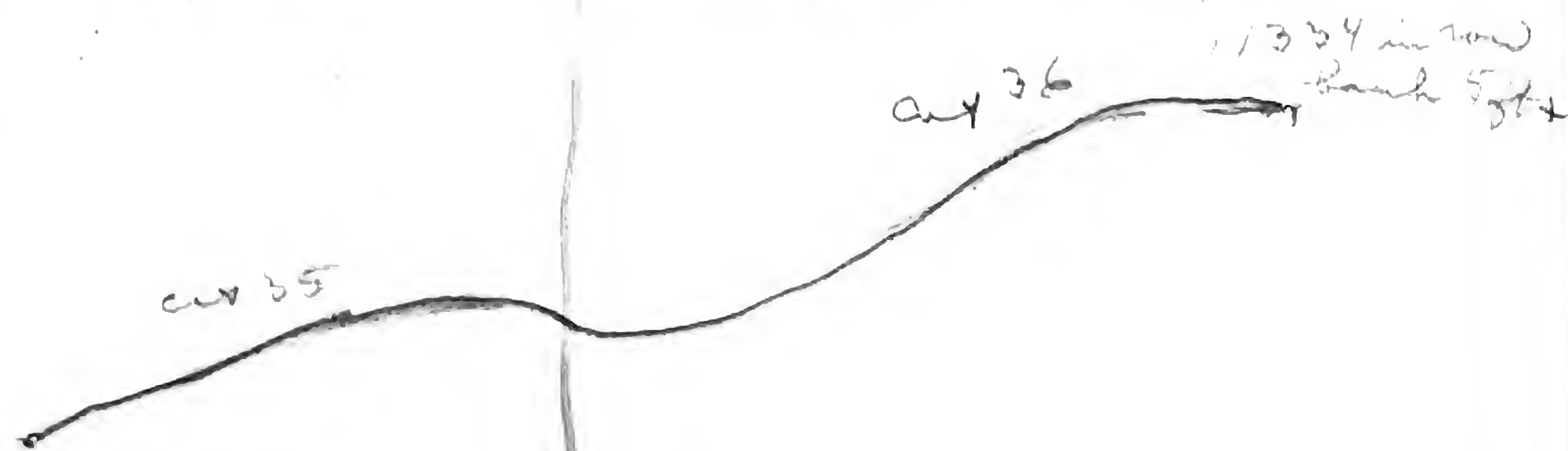
Sep 7, 1913 Sunday
 1267 = CR D & P. dep. 8. at Audubon.

At cut 35, just N of R.R. N of Audubon, there is a rather long hill facing S. It shows drift & clearly on lower slope, - small boulders. At top there is a cut about 9 ft deep. It shows gray loess with tubes (noting no fossils or nodules up to within about 3 ft of top, & there the lower Audubon brownish layer tops out. Of the gray loess there seems to be only about 2 ft & below ^{there is} drift, oxidized above, & with sand streaks.

The drift is a good joint clay, much of it yellow, with blue (light) streaks, beds & interbedding, & it has large pebbles & small boulders. Very calcareous.

Cut 36 - Top of hill = 1334

This is on the next hill, also facing S, of which it is practically a continuation with an interval.



In cut 36 - which runs up to road 8 ft, drift is exposed quite to top of hill, & has a covering of 2 or 3 ft of heavy, yellow, calc. clay stuff (see sample). Took it from near top of hill, and 1 ft below top of bank.

Cut 37 faces E. & shows red penitence up & a cap of yellow stuff not thick.

Cut 38 shows yellow loam all the way up
Top of hill = 1360

Cut 39 is on a low ridge, runs over top, & on S. side shows drift well up & a cap of the yellow stuff cut only 3 or 4 ft deep.

Cut 40 is just a low ridge with drift exposed on road to top.

Cut 41 faces N. & is just a part of hill, it shows much gray on road, & yellow drift towards base.

Cut 42 is on a steeper hill facing S. (top = 1400) it shows drift with small boulders (one of low R. & one of C. L. G.) well up hill, about 10 ft, & then a gray stream & the top yellow.

Cut 43 faces N. Shows drift well up, then gray streak & little cap of yellow.

Cut 44 faces S. A gentle slope shows drift well up. Then about 1 ft of gray, with iron tubes, is exposed in gully on N. side. Then yellow - a little.

Cut 45 - On a very gentle slope facing N. Gully & bank on E. side shows reddish drift with

a large granite mound

The gray streak & a little buff appear at various points along the road. Travel today. I note only the most striking slopes.

Cut 46 on a slope facing S.

Largely unexposed. I saw drift at foot, of gray streak & yellow top. Top of hill = 1388

In Sport Canyon trip. collect *Sorghastrum nutans*, a few grass & two *Dasylirion*, 1 green & 1 yellow.

Cut 47 is on slope facing E. It shows 1-3 ft. of yellow loamy stuff.

Cut 48 is a long slope facing S.

It shows no fossils & pebbly drift for some distance up the slope & then is covered with a thin layer of yellow.

Encountered several places where the top of hill had been cut, & in one place they were heaped up more while

fixing the road. The road

is cut

Cut 49 By way up hill. It shows gray loam. I saw drift below road at 40 ft. Then below, at 1295 - 1312 at foot.

Drove to Canyon W. of way to Cut 29

Near I saw drift in gulch about 2-3 ft. of a very fine yellow clay,

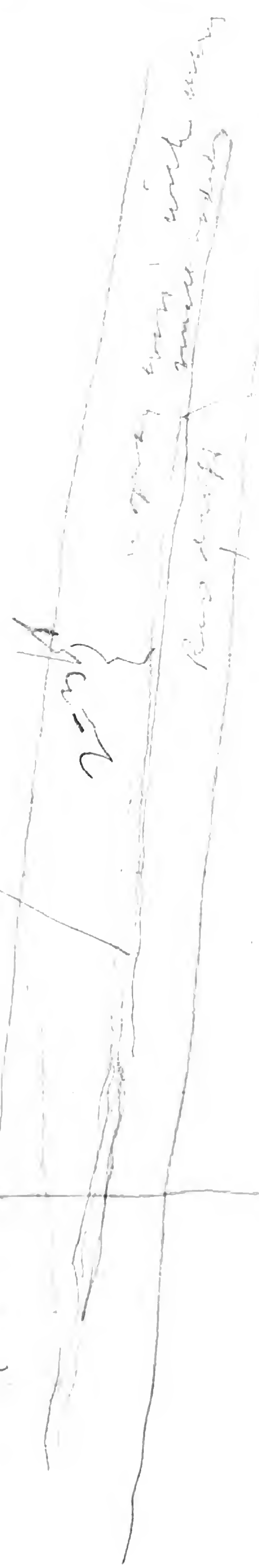
with pebbles, subsoil under

4-5 ft. of reddish pebbly drift with small boulders (see sample of each)

At about 1350 a gray loam begins to appear. (referred to p. 16.

of Soc. of note book)

yellow 3-5 ft. Fossiliferous part of gray layer



At about 1363 a cal. fossiliferous
gray loam with black nodules
& irregular nodules appearing
& some fossils for about 50 ft.
The fossils & layers nodules - con-
to change in the lower 2 ft. of the gray
the upper part has small nodules near the
the lower bottom of gray - at least 5 ft.

3-4 ft. gray layer
The gray even
distinctly fossiliferous
nodules - small
fossils of animals
3-4 ft. gray layer

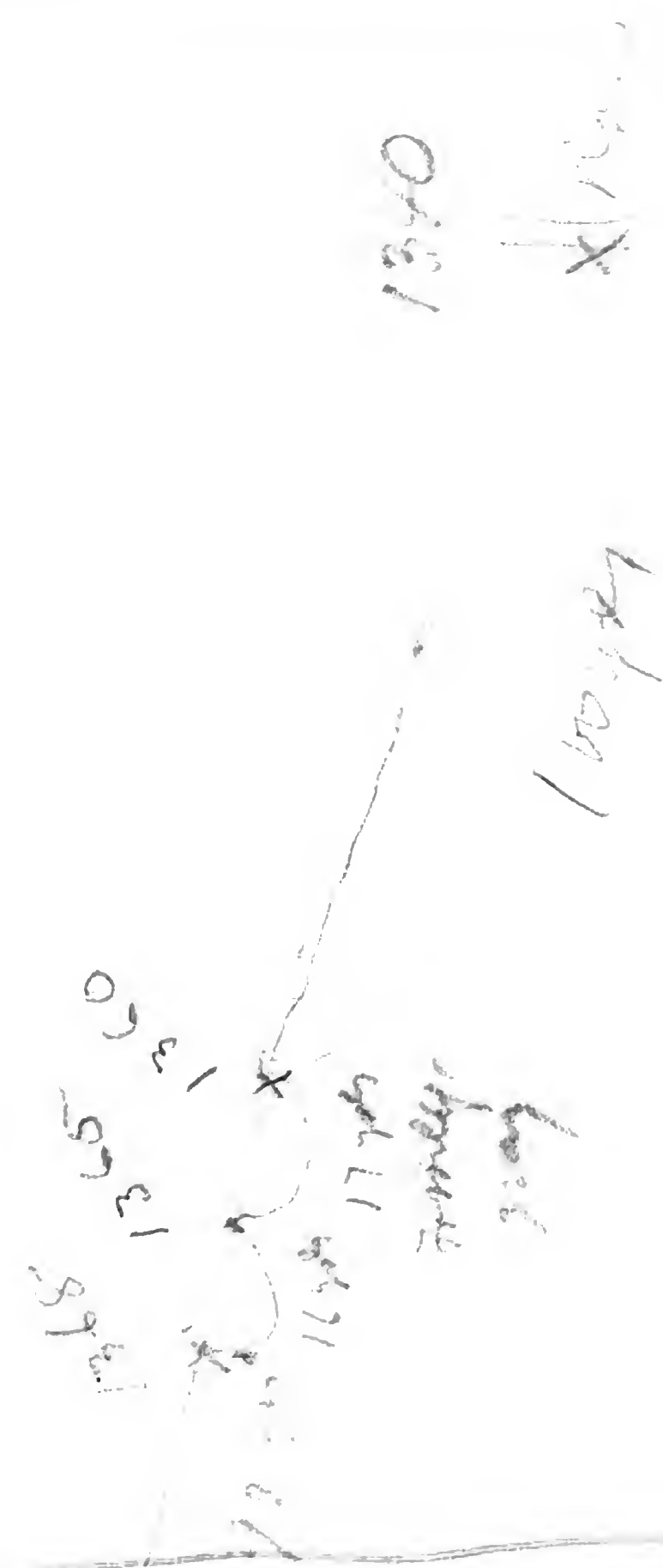
Higher up in the gray layer
the latter being and
there is a layer of gray
(in upper part)
Small nodules appear in yellow
not so much as in gray.

The very top - 1373 and only 1 ft
Then gentle slope about 235
yds. Along this are 1-2 ft and
small boulders are thrown in
the sand & yellow clay. At 1404
gray loam.

At this 235 ft a little
gray even - then, both
Tubers: Reading at 235 13.75
then for 9 ft, and in the 3rd
4 ft, but only one tuber
in yellow & this shows no drift
all the way. The total loam

Clinch is less than 4 ft
 Reading at this point: 1308
 At 15 more yds fossiliferous gray
 begins. It runs up hill as
 a gray basalt, then 1 ft thick
 & 2 1/2 - 3 ft of yellow ore is.
 Chert-like layer often encountered
 at end of 15 yds reading = 1365
 For about 17 yds gray fossiliferous
 iron shown - Reading = 1360
 About 100 yds more to N. side
 of road. Reading = 1340
 This is not yet lowest place.
 Lowest bottom E = 1318
 Drift shown along E. road

 1305 = RR at Gray at 1:30 PM



1375

235 yds

E side

E side

not a hill
1393

Cut 50 faces W & is along slope of
high hill. It shows yellow loam
all the way up. Some red
not a deep cut

Cut 51 faces E. Shows K. loam
1/3 way up, then gray streak &
finally yellow.

Cut 52 faces E. It shows 5-6 ft of
yellow loam - cut at top & sides (silt)
near base show gray loam

Cut 53 faces W. It is on rather low
ridge & its lower part shows
drift. Then a gravelly, & then
in bank on N. side a belt of
gray loam (with tubs) showing
at least 2 ft. Then yellow on top.

Cut 54 shows ^{faces E} gray streak & yellow loam

Cut 55 faces E. Drift at base.
Loam above (yellow)

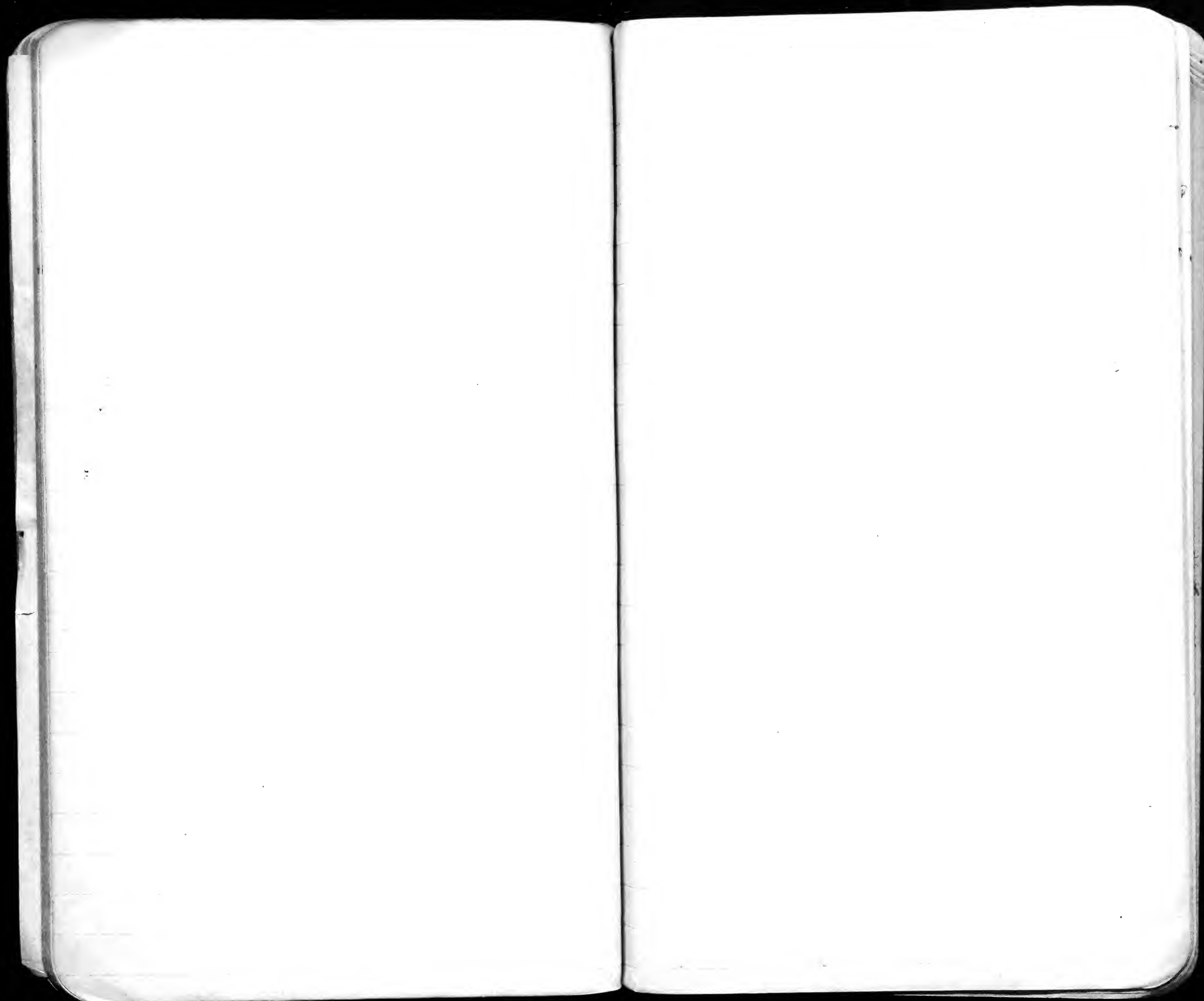
Cut 56 shows drift well up to
intersection. Gray streak at intersection &
a little yellow loam on top S. side.
Red berretto also shows.

about 3 ft of yellow loam exposed
in bank S. of road.

Gray is distinct but not thick.
Has iron tubes & few nodules.

Cut 57 shows much drift &
some loam on top. Faces S.

Reading on return in hotel office 1296
at CRIVR. 1235
on return, office 1283



Biographical History of
Shelby & Audubon Counties, Iowa. 1889

p. 230 - Geology, Topography & Nat. History
(of Shelby Co.) pp. 230-231.

Galland's Grove contains "about 1,000 acres."

p. 230 - "It is a prairie country, but does not have the usual characteristics of prairie land, as occasional groves and beautiful streamlets relieve the ordinary monotony of a stretch of prairie."

p. 231 - "These natural groves, planted by Mother Nature, are made up for the most part, of the different species of oak, elm, ash, hickory, black walnut and boxwood. There are also many thickets of sumach, hazel, thorn-apple, blackberry, gooseberry and hindred shrubs."

The entire county is supported by geological experts, to be underlain with a coal deposit, ~~to a~~ greater or lesser extent, but is covered by the post-tertiary deposits, not less

than 200 feet in some places. The only stone in building known is the sandstone of the drift formation. Future prospecting and delving into the geological strata are quite likely to present a mineral wealth of great mineral value. One of the finest features of the natural resources of Shelby County is the excellent quality, as well as quantity, of coal, while some water found in ~~its~~ numerous water courses and at ~~any~~ depths for wells."

First whites (Galland's Grove) 1848. ~~Memorandum~~
"Reorganized Church of Jesus Christ of Latter Day Saints." Council Bluffs was Keosauqua. Saw mills - first at Galland's Grove, now in 1857 in Bowman's Grove.

p. 230 - "bluff deposit"

Andubon co.

Geology, Topography and General Features

pp. 638.

p. 638 - "The Post-Tertiary formations everywhere occupy the surface. -- The drift deposits are but imperfectly known, appearing only here and there at frequent intervals beneath the more recent bluff formations.

p. 643 - County organized in 1855 and named after John James Audubon.

p. 669. Rock Island to Andubon in 1878

Trips planned

Aug. 23 - From Harlan, E. & N. 1 day

" 24 - South. 1 day

- Out from Shelby 1 day.

- Out from Eldon 1 day, Shelby

(1 day, (unc)) 1 day, Eldon

- Out from Defiance

To Dunlap 1 day

Return 1 day

Earling to Defiance 1 day

- Out from Protina

~~Shelby~~ To Kirksville & N. - 1 day

To E. of Kirksville & E. - 1 day

~~Andubon~~ To Fiscus - 1 day

S. E. - 1 day.

- One day at Harlan 1 day

Brickyard

Bluffs E. side.

- Out from Andubon

SW. 1 day.

SE. 1 "

NE. 1 "

Out from Exira

810.

82.

1 day

1 day.

Photos 546 - *Arabis* *laevigata* looking
S. & W., on N. E. by Kelly 11-79-39
Aug. 25, 1913

Photos 110, 115, 116. Fine row
of honey suckles on edge of
field on road leading
S. - On *Andromeda* *seabrae* 546
rec. 14 - 79 - 38, Aug. 24, 1913

Photos 23x, 24x. *Limonium* *Parkii*,
H. A. Escher's place on road
rec. 19 - 79 - 39,

Ken White

3800 4/20

Pexton

John Sandham
Dr. J. A. Cobb

John - Feb. 26, 1871

May 5 - 1847 Mary

Oct. 21 - 1858 Will

Oct. 24 - Vesta

Aug 8 - 1864 Anna

" 6 - 1874 - Jim

" 7 - Oregon

Sep. 26 - 1880 - Emma

May 14 - Jim Sr.

Dec 27, 1912 - Mary (Emma's)

Ella - July 8, 1887

Bertha - May 5 - 1889

Anna - Mar. 22 - 1893

Vesta - Oct. 24 - 1896

Frank - June 17 - 1900

J. P. Miller Arterian Wall
Chicago

And Ill

2393 ft. 9 in

2105
285

Frank a coarse
drilling rock (sandstone)

